Defense AT&L

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Logistics in a Changing Environment

Defense AT&L interviews
Maj. Gen. Edward G. Usher III, USMC
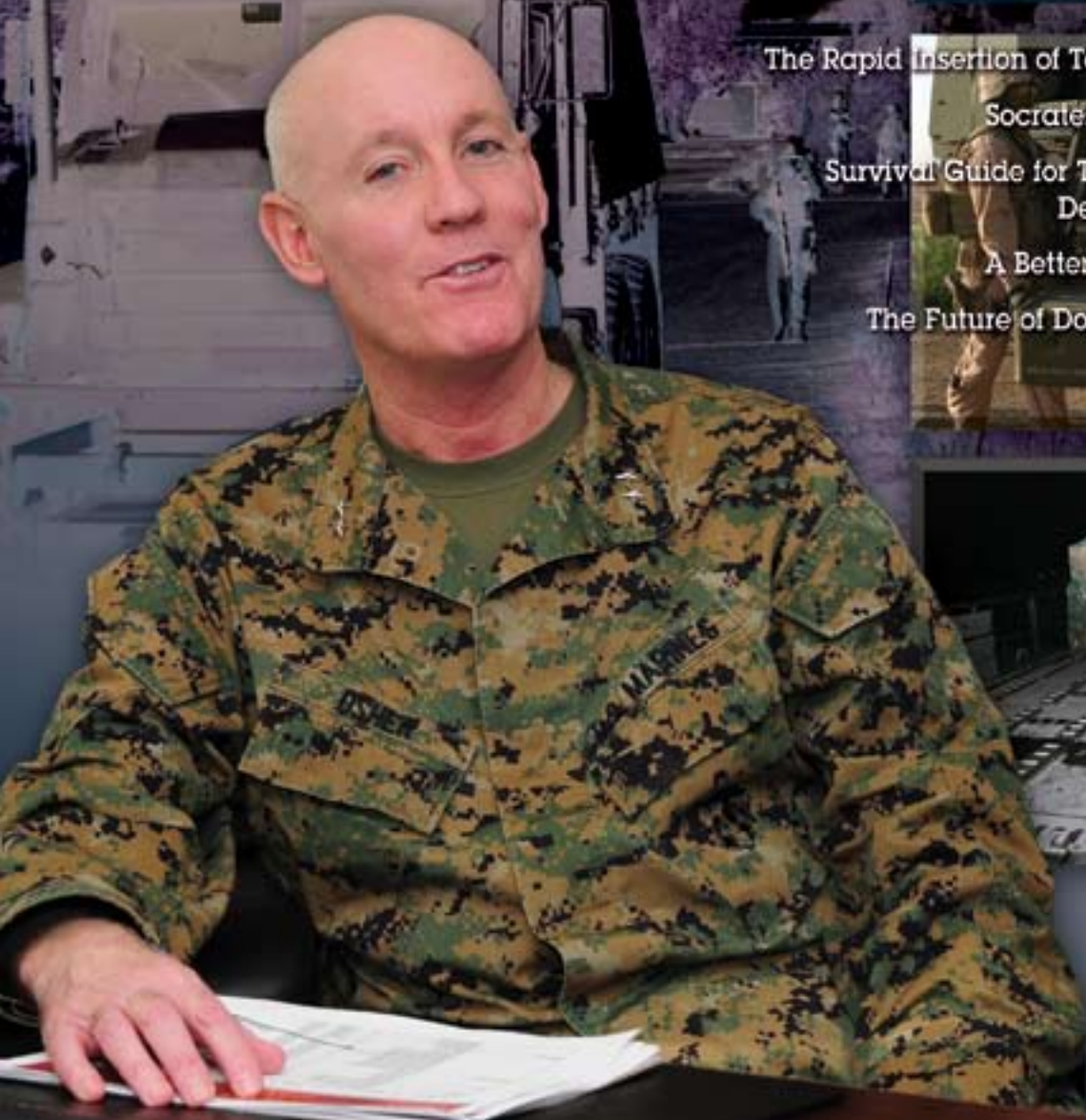*Deputy Commandant for Installations and Logistics, U.S. Marine Corps*

ALSO

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ALSO

DEPARTMENTS

Logistics in a Changing Environment

Supporting Marine Expeditionary Units

Maj. Gen. Edward G. Usher III, USMC
Deputy Commandant for Installations and Logistics, U.S. Marine Corps

Operation Iraqi Freedom involved more than 400 miles of terrain that equipment, supplies, and supporting personnel needed to cross. The number of bases throughout the world has decreased, and as a result, sea bases have gained in importance. Users are being trained in new technology that improves the tracking of equipment to its point of need. These are examples of how the environment in which the Marine Corps operates is changing all the time. Marine Maj. Gen. Edward G. Usher III, deputy commandant for installations and logistics, is responsible for ensuring the Marine Corps not only keeps pace with change, but anticipates new needs. *Defense AT&L* interviewed Maj.

Gen. Usher on what the future holds regarding logistics, increasing the warfighter's situational awareness, and meeting the challenge of a growing Marine Corps.

Q

Can you begin with an overview of your jobs and responsibilities as deputy commandant for installations and logistics?

A

The role of deputy commandant, installations and logistics (I&L), makes me the occupant of the senior logistic billet in the Marine Corps and directly responsible to the commandant, as well as all Marines, for all logistics-related issues and support of the Corps' bases and stations throughout the world. It is a big job, and fortunately, I get a lot of help.

The department is made up of over 350 Marines, civilian Marines, and contractors spread over six divisions spanning responsibilities for logistics policies, strategic mobility, facilities and services, contracting, small business advocacy, and business enterprise. The Marine Corps Logistics Command, headquartered

> The term "expeditionary" is an inherent part of our warfighting culture. We anticipate and train to operate in chaotic and austere immature environments.
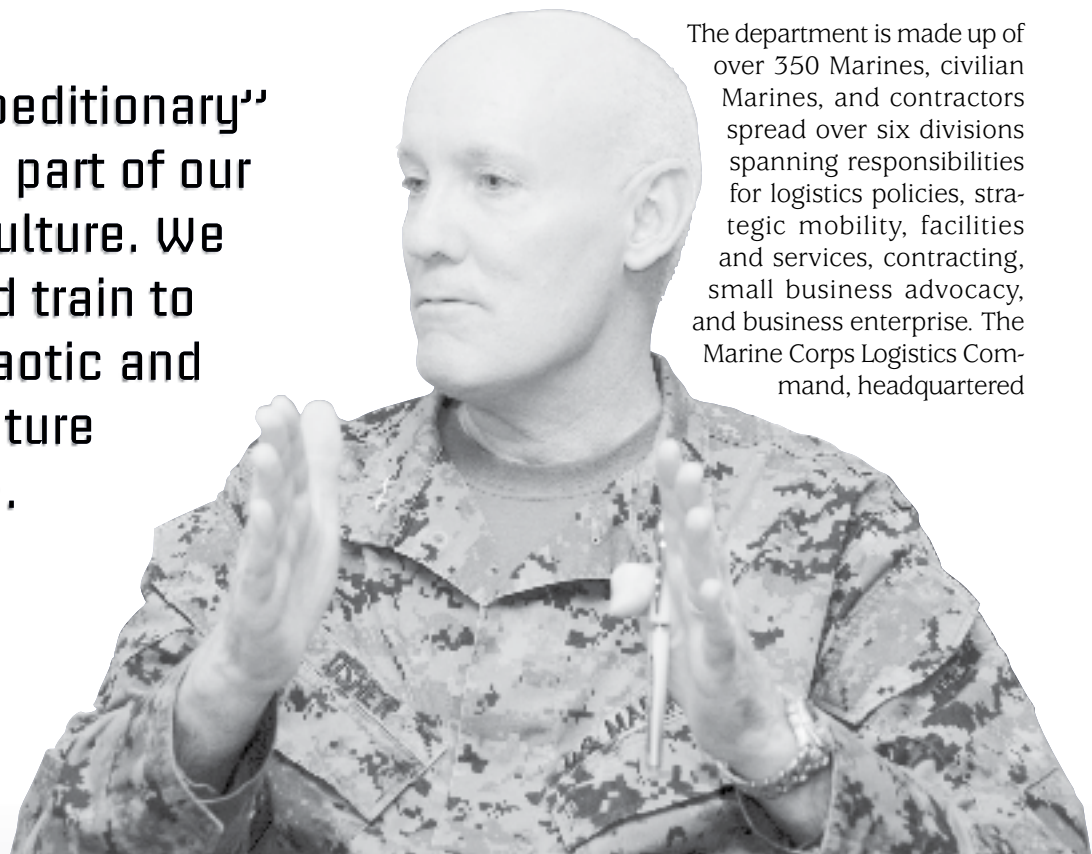
in Albany, Ga., is also a big part of I&L. The LOGCOM runs our depots as well as the execution piece of the Maritime Preposition Force program.

Although this may appear as a diverse set of roles and responsibilities, a common link exists in providing Marines the stuff and wherewithal to do their mission. That link represents the rudder for my tenure as deputy commandant for I&L and drives my priorities, which are:

- Expeditionary logistics: Enhance logistics support of the Marine Air Ground Task Force (MAGTF), the nation's premier expeditionary force-in-readiness, across the spectrum of conflict.
- Total life cycle management: Increase equipment readiness through cradle-to-grave management of weapons systems.
- Continuous process improvement: Improve combat readiness through innovation.
- Quality of life: Deliver the highest quality support, services, and amenities to our Marines and families in garrison and deployed.

Q

One of your primary focuses is on expeditionary logistics, which involves supporting warfighters across a wide spectrum of conflict. How does the idea of expeditionary logistics differ from the deployment of traditional logistical support?

A

When you talk about expeditionary logistics and the deployment of traditional logistics, you really have to look at the core of how Marines operate.

First and foremost, the term "expeditionary" is an inherent part of our warfighting culture. We anticipate and train to operate in chaotic and austere immature environments.

Second, the Marine Corps is naval in character, so when we deploy, it is typically in conjunction with and aboard Navy amphibious ships with Maritime Prepositioned Force assets. Operating with the Navy typically affords us the ability to respond early to a crisis and provides us the capability to sustain ourselves from the sea base.

Our ability to operate and sustain ourselves from the sea base has taken on an increased level of importance because of a decreased number of and reduced access to bases throughout the world. The challenge lies in continuing to improve how we provide support to the MAGTF, combined with determining where we project to be operating in the future based on threat and on operating along the littorals.

Third, we are organized as a MAGTF, with air, ground, and logistics components, and this gives us the flexibility

to respond to the entire spectrum of military operations. This means we have the scaleable organic capability to respond to anything from shaping the environment all the way through dominating the enemy and enabling civil authority. Although we are comfortable in providing logistics support in an expeditionary environment, we are not comfortable with the status quo; we are always seeking ways to improve our ability to provide responsive, flexible support to our Marines.

Q

Can you highlight some of the recent success stories that your organization has had in providing support to the MAGTF?

A

In 2004, as a result of lessons learned from OEF [*Operation Enduring Freedom*] and OIF [*Operation Iraqi Freedom*], the Marine Corps started the Logistics Combat Element reorganization. The goal was to increase MAGTF effectiveness through streamlined logistics processes that developed habitual relationships between infantry regiments and supporting combat logistics battalions that remain the same whether in garrison or deployed, resulting in a more responsive, adaptable, and capable unit.

The reorganization of the Force Service Support Groups into Marine Logistics Groups accomplishes the following:

- Provides a standing direct support command element and core transportation capability to rapidly task organizations for deployment operations
- Provides for experienced logistics command and control operations and planning support
- Develops strong habitual working relationships between supported and supporting units.

These attributes increase the effectiveness and cohesion of the MAGTF in accomplishing any assigned mission.

We were also heavily involved with coordinating equipment sourcing and equipment distribution for units to support regular OIF rotations, OIF surge, and OEF. This involved cross-leveling of unit equipment, distributing equipment returning from depot repair, and new procurements. We have also established equipment reception and distribution teams at the MEFs [*Marine Expeditionary Forces*] to support an increase in ground equipment flow and assist with accountability. Additionally, we are working with other Headquarters, Marine Corps (HQMC) staff and the operating forces to make recommendations to the Marine Logistics Group for ground equipment capability increases. This will support the reorganization and emerging units as the Marine Corps increases to 202,000 members.

The Marine Corps also manages approximately 3 million acres of land in support of the warfighter, retaining

Maj. Gen. Edward G. Usher, USMC

Deputy Commandant for Installations and Logistics, U.S. Marine Corps

Maj. Gen. Edward G. Usher III is presently serving as the deputy commandant for installations and logistics, U.S. Marine Corps Headquarters.

He is a 1974 graduate of San Diego State University. A third generation Marine, he entered the Marine Corps through the Platoon Leaders Class Program. He completed the Amphibious Warfare School (1981), and he is a graduate of the Marine Corps Command and Staff College (1987) and the Naval War College with a Master of Arts in national security and strategic studies (1997).

Since his commissioning and graduation from The Basic School in 1975, Usher has held a variety of command and staff positions. He has had company-level command assignments with Base Materiel Battalion, Camp Pendleton, Calif.; 1st Radio Battalion, Fleet Marine Force Pacific; Marine Barracks, Washington D.C.; and 1st Supply Battalion, 1st Force Service Support Group, Camp Pendleton. He has held battalion-level command as the commanding officer of the 13th Marine Expeditionary Unit, Marine Expeditionary Unit Service Support Group 13; and as the commanding officer of the 3rd Transportation Support Battalion, 3rd Force Service Support Group. From June 2001 to July 2003, Usher commanded the 1st Force Service Support Group.

Usher has also served as the assistant deputy commandant for logistics plans, Policies and Strategic Mobility Division, Headquarters, U.S. Marine Corps. During that tour, he was assigned duty for six months as the chief of staff for the chief operating officer, Coalition Provisional Authority, Baghdad, Iraq. His last assignment was as the vice director for logistics, J-4, the Joint Staff.

Usher has received the Navy Distinguished Service Medal, the Defense Superior Service Medal, the Legion of Merit, the Defense Meritorious Service Medal, the Meritorious Service Medal with three gold stars, the Navy and Marine Corps Commendation Medal, and the Navy and Marine Corps Achievement Medal with gold star.

stewardship responsibilities for the natural and cultural resources present at each location. Natural resources management includes providing for multiple use of the land and protection of endangered species. Management is performed under the auspices of our Integrated Natural Resources Management plans, which are developed in conjunction with the U.S. Fish and Wildlife Service.

Our Family Housing Public-Private Venture Program has also been a MAGTF success story. The public-private venture partners are not only providing outstanding quality homes and community support facilities, but they are also providing vastly improved maintenance services. These projects are having a positive impact on the quality of life for Marines and their families. Since our first project was awarded in November 2000, we have privatized 96 percent of our worldwide inventory and have been able to leverage $557 million in Marine Corps dollars to achieve more than $3 billion in housing improvements. The Family Housing Public-Private Venture Program has allowed us to put business agreements in place at the end of 2007 to fix all of our inadequate family housing by 2014.

From a process improvement perspective, our Business Enterprise Office has implemented process improvements that are paying huge dividends throughout the Marine Corps. Some of our efforts are:

- Establishing a partnership with the Government Services Administration to deliver reliable garrison supply throughout the Corps, which is expected to free up about 100 Marines and reduce costs anywhere from $6 million to $12 million annually.

- A Lean Six Sigma project designed to accelerate repair cycle time of the Assault Amphibious Vehicle, which also reduced cost and resulted in 40 percent fewer defects when received by the operating forces.

- A Lean Six Sigma project to accelerate the processing while increasing visibility of the Marine Corps Urgent Universal Needs Statement requests. The Urgent Universal Needs Statement process improvement reduced the total process time for these requests from 129 to 87 days. It is also expected to reduce procurement cycle time by 45 days while providing a level of visibility for tracking never before available to stakeholders.

Q
You have said that one of the biggest challenges in providing current logistical support is maintaining the agility required to adapt to rapid changes on the battlefield in a ground fight of unprecedented speed. How are you doing things differently to enhance agility and flexibility? How is logistical support responding faster to the quickly changing needs of the warfighters?

A

We experienced considerable mobility challenges during the 400-plus mile engagement during OIF. The deployed logistics units simply did not have enough trucks and trailers to respond to the extraordinary demand for transportation of equipment, supplies, and personnel. Recognizing capability shortfalls in all elements of the MAGTF, the commandant of the Marine Corps directed a comprehensive Table of Equipment review in the fall of 2007. Increased mobility assets were the logisticians' number one priority. Recommendations made during the Table of Equipment review for additional long-haul capability, medium-lift assets, and supporting maintenance vehicles were approved and will be added to the existing equipment sets of Marine logistics units.

In addition to enhancing responsiveness with equipment, these challenges are being addressed by new logistics technologies in use by deployed operating forces. Logistics decision support tools—such as MERIT [*Marine Corps Equipment Readiness Information Tool*], the Common Logistics Command and Control System, and the Transportation Capacity Planning Tool—automate tasks previously accomplished via laborious stubby pencil drills or locally designed spreadsheets.

Our capstone logistics technology enabler of the future is the Global Combat Support System–Marine Corps, which will give logisticians a world-class, Web-based management tool for use, while deployed, to request logistics

support via both classified and unclassified connections. The GCSS-MC will allow units that are deployed to austere environments to operate in a disconnected mode to register their needs without having to tie into a Web-based information system located in the United States.

These initiatives are being supported with the communications assets required to operate on a digital information-enhanced battlefield with modular, scalable, and deployable equipment to provide the robust bandwidth for voice, data, and video teleconferencing both internal and external to the battlefield. These efforts respond to the capability gap within the Logistics Combat Element for line-of-sight, beyond-line-of-sight and on-the-move communications for logistics support of MAGTF operations.

> We are not comfortable with the status quo; we are always seeking ways to improve our ability to provide responsive, flexible support to our Marines.

Q
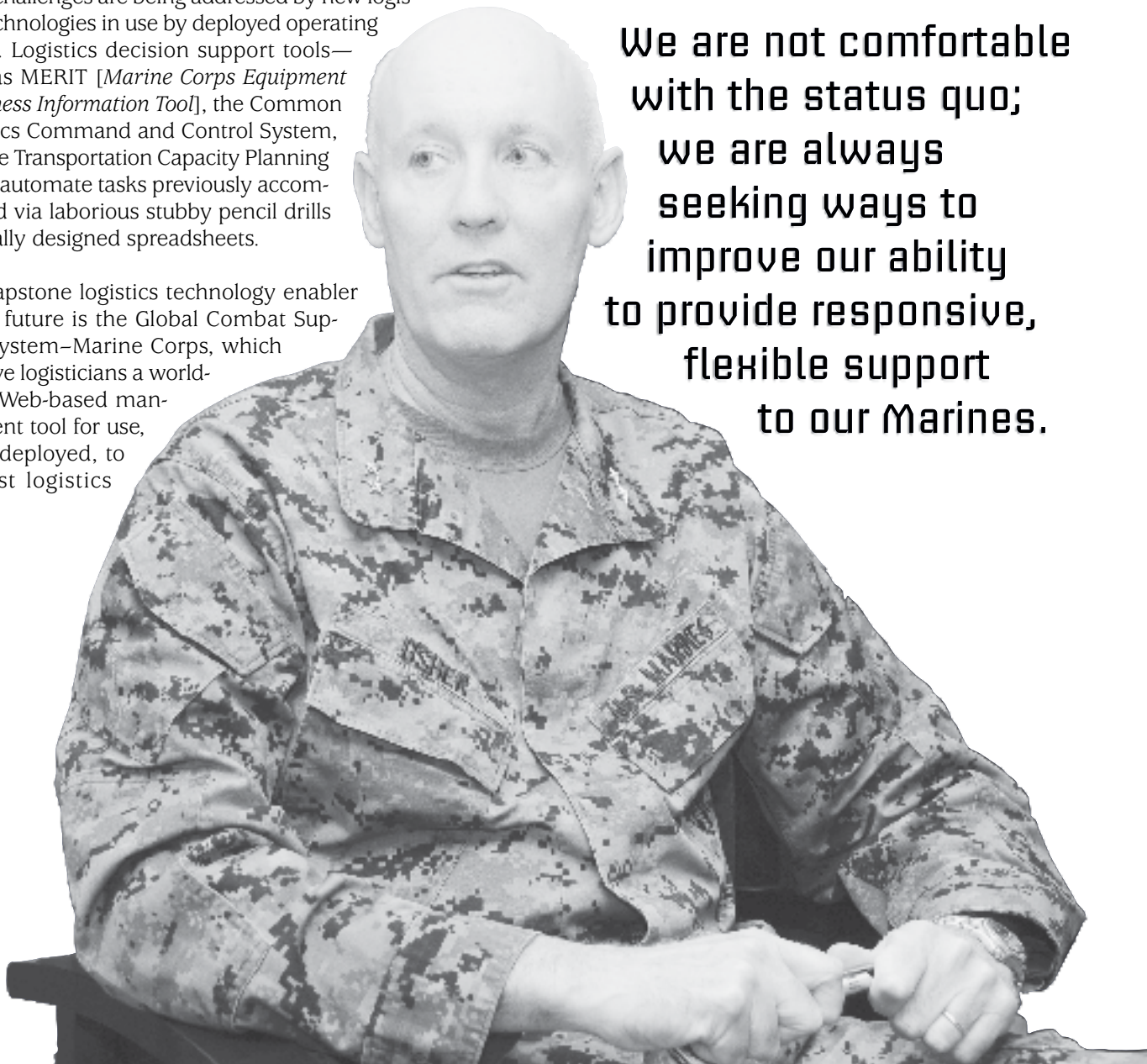
A key challenge to logistics decision makers is maintaining a comprehensive situational awareness of the strategic, operational, and tactical logistical environment. The Logistics Readiness Coordination Center has been tasked to support the deputy commandant for I&L by serving as a focal point for monitoring, identifying, filtering, coordinating, processing, and resolving logistics issues affecting Marine Corps forces in times of emergency, increased tension, open hostilities, or exercises. Can you comment on how the LRCC maintains and fosters effective communication?

A

The LRCC acts as a conduit of information between the operating forces, the supporting establishment, the joint planning and execution community, and HQMC logistics decision makers. The LRCC maintains a continuous presence with multiple 24/7 watch teams who continually monitor message traffic, situation reports, and Web sites; and attend secure VTCs [*video teleconferences*] with the operating forces and supporting establishment. By acting as the coordinating activity for logistics issues with 24/7 availability, the LRCC watch teams maintain a unique situational awareness that is critical for the efficient handling of logistics operations.

In support of OIF and OEF, the LRCC is the only Marine Corps capability at the strategic level to provide detailed, cogent, and timely logistics information to key HQMC decision makers, and to facilitate communication flows by actively seeking and clarifying information across the entire logistics continuum. The LRCC assists HQMC and the supporting establishment in conducting strategic logistics support while processing and coordinating information with the Marine Corps operating forces, Marine Corps Reserve, Joint Staff, and the supported or supporting combatant commander.

The LRCC is a reserve capability sustained in peacetime by individual mobilization augmentee detachment members and activated during periods of high-operations tempo and/or national emergency. The detachment is staffed by professional logisticians who maintain technical competence in using logistics resources such as MERIT, the Joint Operation Planning Execution System, the Single Mobility System, and the Global Transportation Network.

Q

You've noted a problem in logistical support has been a lack of in-transit visibility information to incorporate into the command and control effort. Without asset visibility on unit stocks and in-transit visibility on ordered items, then shortages, locating needed items within stocks for reallocation, and directing and tracking the movement of ordered items to requesting units can be greatly hampered. To respond to this issue, the Radio Frequency Identification (RFID) program has been introduced. Can you comment on the progress of this program? How will the MAGTF end-to-end distribution system contribute?

A

For ground logistics, we have embraced and implemented active RFID technology within the Marine Corps. Our automated information systems for sustainment, transportation, and unit deployment of supplies and equipment are fully operational with the tools to apply an active tag. We are also tagging our preposition ships as they go through their maintenance cycle.

We have completed seven ships to date. We have installed 78 fixed interrogators throughout our bases and stations that are providing nodal visibility for active tagging shipments/equipment. We will continue to install more as the business process warrants. To provide a mobile active tag interrogator capability, our Marines also have portable deployable kits at their disposal. We have noticed a significant increase in in-transit visibility from OIF to the present.

From a technological standpoint, active RFID tag-provided in-transit visibility is only as good as the last known interrogator it has passed. That's what RFID gives you. In addition, the data is only as good as what the user/system writes and reports. Garbage in is garbage out. Furthermore, training plays a major role in the success of incorporating this technology. Our Marines, on a daily basis, are writing tags for local deliveries to "train as we fight." By introducing other modernization initiatives such as pure pallets, direct channel flights, and other aggressively applied supply chain management practices, we have reduced the number of touch points where shipments have to be reconfigured and re-tagged.

While RFID has increased our in-transit visibility, it is by no means the only solution to a much larger requirement. It is just one tool in the toolbox used to build asset visibility/in-transit visibility data.

Q

You've stated that contingency contracting teams act as force multipliers and have adopted the Battle Ready Contingency Contracting System to further amplify this support. Can you describe this effort? How will the features of BRCCS enhance the capabilities of contingency contracting teams?

A

The BRCCS—renamed Standard Procurement System–Contingency in 2006—is a deployable version of SPS (the same contract-writing system used in garrison) that is installed on ruggedized laptops, thus precluding the learning curve for a new system when contingency contracting Marines deploy. The SPS-C is very versatile and can be used as a standalone system in austere environments or linked for synchronized networked

workflow capability if operating in a more robust contracting environment.

However, SPS-C is just one of the many initiatives the Marine Corps has instituted to increase the capability of our contingency contracting workforce. The Marine Corps has also realigned our military contracting assets to better support the operating forces. Prior to this realignment, just 25 percent of the contingency contracting workforce was in locations that directly supported our operating forces; that figure is now 75 percent.

Additionally, our training program has been shortened from an 18-month graduate education program to a four-month, intense contracting training program. This new program will give our contingency contracting workforce the hands-on training not available in the graduate program. As part of this contracting immersion, we have implemented a program that mandates that our contingency contracting Marines work in the local regional contracting offices while in garrison. This arrangement reinforces the contracting skills already learned and promotes the development of broader business acumen.

In the Marine Corps, the supply, logistics, and finance military occupational specialties are considered primary skill sets. The contracting military occupational specialty is a secondary skill set that has been developed to ensure our contingency contracting workers, both enlisted and officer, have the capability to be assigned to multiple contracting tours through the rank of colonel while remaining competitive in their primary supply, logistic, and finance military occupational specialty. In addition to better supporting the operating forces, this approach encourages entry into the contingency contracting workforce and results in DAWIA [*Defense Acquisition Workforce Improvement Act*] certification in the contracting career field for contingency contracting Marines.

Q

The Marine Corps' Maritime Prepositioning Force (Future) is a part of the planning for the Marine Expeditionary Brigade of 2015. The MPF(F) is expected to enable entirely sea-based operations, which will allow naval forces to exploit maneuver spaces that are provided by the United States' control of the seas, to include unimpeded mobility and persistent sustainment. This is an ambitious and, naturally, expensive program. Can you comment on the current status of MPF(F)?

A

The MPF(F) will bring a flexible, networked, and interoperable employment platform that will enhance our sea-based, littoral warfighting capability. Rapid force closure; arrival; and assembly at sea for sea-based operations, sea-based sustainment, and over-the-horizon employ-
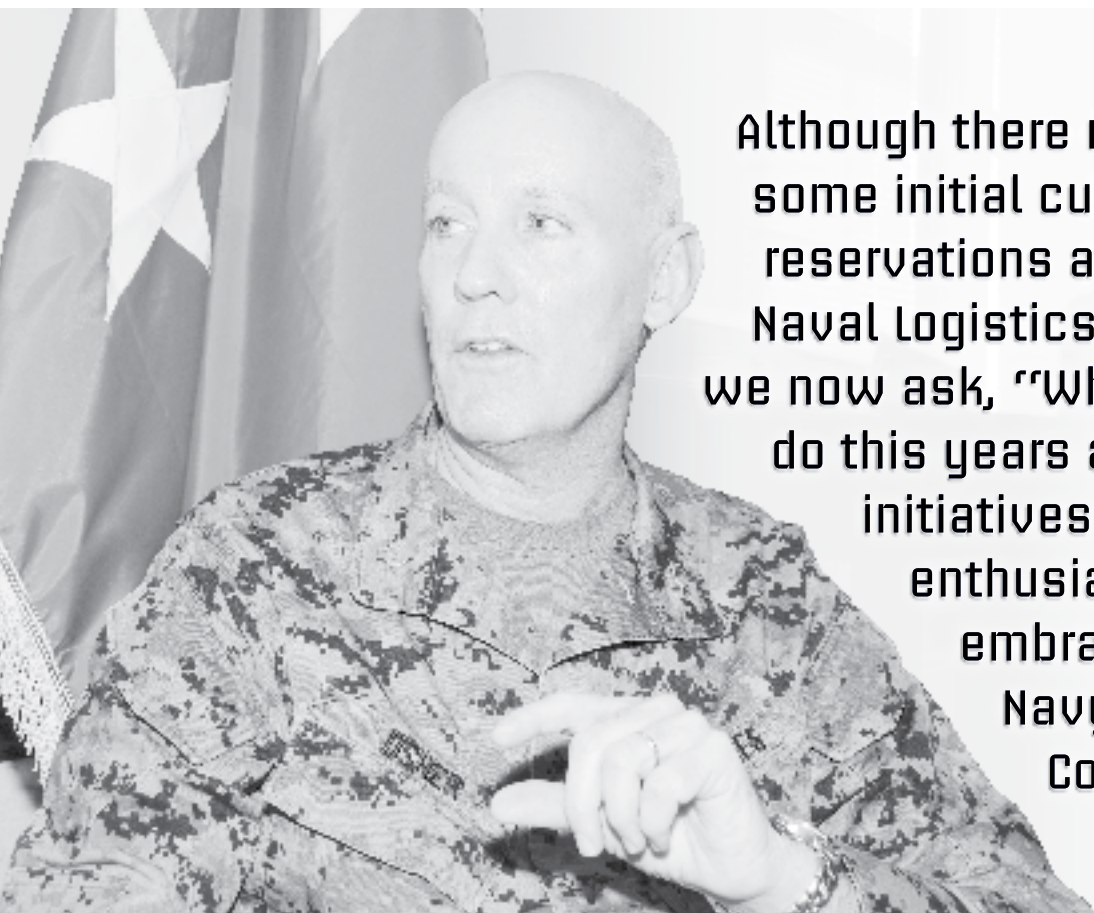
Although there may have been some initial culture shock and reservations at the outset of Naval Logistics Integration, we now ask, "Why didn't we do this years ago?" The NLI initiatives have been enthusiastically embraced by both Navy and Marine Corps personnel.

LETTERS

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E-mail letters to the managing editor: datl(at)dau(dot)mil.

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We want to hear from you!

ments are just some of the gaps addressed by MPF(F). When coupled with our assault echelon amphibious ships, MPF(F) will reinforce and strengthen the overall lethality and agility of our naval expeditionary forces.

In addition to new ships, the Marine Corps plans to incorporate legacy amphibious and cargo ships into the squadron to round out the force. We expect to see delivery of the first new dry cargo/ammunition ships and mobile landing platforms in the 2012 to 2017 timeframe. The first ship is scheduled for delivery in 2012. The MPF(F) is planned to reach the full operational capability of 14 ships after 2020.

Q

In 2003, the Navy and Marine Corps implemented the Naval Logistics Integration terms of reference, which sought to integrate both Services' logistics processes to support daily operations and future sea basing. Can you comment on the progress of this initiative? Have cultural shifts been necessary for each Service to accommodate the integration?

A

The NLI has been a resounding success for both the Navy and Marine Corps. During these first several years of maturing the various NLI initiatives, the initial focus has been on improving logistics support for afloat units—and thus Marine Corps units have realized and benefited significantly from Navy support while aboard ship. As we progress in the development of NLI capabilities to include shore support of Navy Expeditionary Forces (the Navy Expeditionary Combat Command or "Green" Navy), we will begin to see a reciprocation of the superb support that Navy elements have provided to Marine units afloat. We will see Marine units ashore providing a full range of enhanced logistics support to Navy units operating in the same areas.

Key afloat enablers that have proven very successful to date are:
- Marine Corps use of the Navy Priority Material Office
- Marine Corps use of the Naval Supply Systems Command Cargo Routing Indicator File
- Expanded Marine Corps use of the Naval Inventory Control Point Advanced Traceability and Control Program
- Stock positioning of Marine Corps requirements aboard Navy combat logistics force ships
- Expanded Marine Corps and Navy supply chain data exchange
- Use of new information technology applications
- Focused departmental and Service documentation for the various NLI initiatives.

Use of these enablers has resulted in some very positive results:

- Average customer wait time for afloat units has been reduced by up to five days.
- Average customer wait time for critical material for units ashore has been reduced by up to 30 percent.
- More than 100,000 ground repairable items, worth almost a billion dollars, have been moved via the Naval Inventory Control Point Advanced Traceability and Control Program with over 99 percent proof-of-delivery.

Although there may have been some initial culture shock and reservations at the outset of NLI, we now ask, "Why didn't we do this years ago?" The NLI initiatives have been enthusiastically embraced by both Navy and Marine Corps personnel. We are exploring new areas for training our logisticians to take advantage of new technologies and concepts such as the new Marine Corps Tactical Decision Center and the Navy Expeditionary Logistics course. We are exchanging seats at such key courses as our tactical logistics officers and advanced logistics officers courses with Navy personnel. To validate our successes and institutionalize NLI within the Navy, the Department of the Navy recently issued OP-NAVINST 4000.37 directing the use of NLI with a clear goal of "an integrated naval logistics capability that can operate seamlessly whether afloat or ashore, successfully supporting and sustaining naval expeditionary units in a joint warfighting environment."

Significantly, even non-logisticians have taken notice of our efforts and accomplishments. One recent Marine expeditionary unit commander noted that we logisticians had finally "broken the code." Use of NLI enablers helped keep his unit readiness consistently above 94 percent for the duration of a MEU deployment that included several operations ashore.

Q

One of the primary goals for Installations and Logistics has been the Global Combat Support System—Marine Corps. This portfolio of systems, part of the overarching joint GCSS family of systems, will support logistics elements of command and control, joint logistics interoperability, and secure access to and visibility of logistics data. The GCSS-MC is meant to maximize Marine Corps combat effectiveness through logistics information technology by providing the "right logistics data at the right time, at the right place." Can you talk about the current progress of this program and what it will offer to the MAGTF?

A

Our Global Combat Support System-Marine Corps, or GCSS-MC, has made tremendous progress over the past year and is on target to do the same in 2008. Let me give you a few highlights of activities that are driving this initiative closer to implementation.

> We are making good progress at this point and expect to continue to do so throughout 2008. But we have said all along, that while we must have the Global Combat Support System-Marine, it is not as important to get it fast, as it is to get it right.

Buying Green As the largest federal buyer of goods and services, the Department of Defense strives to ensure that every procurement meets the requirements of all applicable federal green purchasing requirements. In fiscal year 2004, DoD established a formal Green Procurement Program (GPP) to enhance and sustain mission readiness while protecting the environment through compliant, cost-effective acquisition that reduces consumption of resources and excessive generation of solid and hazardous wastes.

Environmentally preferable products

- Recycled content products
- Energy-efficient products Water efficient products
- Alternative fuel and fuel efficiency
- Biobased products
- Non-ozone depleting substances

Green Procurement

The objectives defined in DoD's GPP policy are to:

- Educate all appropriate DoD employees on the requirements for federal green procurement preference programs, their roles and responsibilities relevant to these programs and DoD's GPP, and opportunities to purchase green products and services
- Increase purchases of green products and services consistent with the demands of mission efficiency and cost-effectiveness, with continual progress toward federally established procurement goals
- Reduce the amount of solid waste generated
- Reduce consumption of energy and natural resources
- Expand markets for green products and services

For more information visit the Acquisition & Technology Web site at *<www.acq.osd.mil/at>*.

First, early this year we completed most of the detailed system design work and are now well under way with the build phase of this system. In addition, in early February, we started systems integration testing. We are no longer just working in silos and creating system parts. We are making sure the various components work together. This is a critical step forward toward the successful delivery of GCSS-MC.

Second, this summer we started training our logistics modernization teams—located at each MEF—as change agents so they can help facilitate GCSS implementation. This will kick off a comprehensive training program for users of the new system.

Third, our Transition Task Force held two wargames last year and this June. These week-long exercises are helping us write new policies for the realignment of maintenance and supply processes that support our logistics modernization efforts and will be enabled by GCSS-MC. They are well along in this process.

Fourth, our data assurance teams are now in their second year of verifying equipment inventory records and assisting the operating forces in cleaning data that will be used in GCSS-MC so we do not put ourselves in a garbage-in, garbage-out situation.

Lastly, I&L and the GCSS-MC/Oracle team have spent significant time over the past months conducting functional demonstrations of the GCSS-MC with each of our MEFs and at the Marine Corps Logistics Command. This is giving many Marines, who will be the initial users of GCSS, their first look at the system and its capabilities. Marines are asking questions about how it will impact their jobs. We are responding to input from them while at the same time creating a receptive environment for GCSS-MC implementation. It's a very collaborative and productive effort.

GCSS-MC will provide the MAGTF with more accurate, reliable logistics data more quickly so we can better plan and make decisions. Ultimately, GCSS-MC capabilities will increase the MAGTF's advantage on the battlefield.

It is important to note that this will not all happen at once. GCSS-MC capabilities will become available in different phases, implemented sequentially across the MEFs. Furthermore, there is much integration required with other logistics modernization initiatives to maximize its impact. But GCSS-MC development and implementation is a critical component in enhancing expeditionary logistics for the Corps' 21st century missions.

We are making good progress at this point and expect to continue to do so throughout 2008. But we have said all along, that while we must have GCSS-MC, it is not as important to get it fast as it is to get it right.

Q

Many comments have been made about the recruiting challenges of expanding the Marine Corps to a new end strength of 202,000 Marines, an increase of about 22,000 Marines, by 2011. Can you comment on what you see as the chief logistics challenges to achieving the 202,000 end strength?

A

A primary logistics challenge to achieving the 202,000 end strength is ensuring that Marines not only have the equipment they need to fight and win, but that all Marines (and their families) have a place to train, work, and live. There are numerous logistics challenges that will be worked to reach a 202,000 force. The chief challenge revolves around the following aspects:

- Phasing of the units that need to be stood up with a facilities support plan
- Phasing of the Marines that comprise the units to be stood up with established tables of equipment so our Marines can train for their next mission
- Phasing of internal Marine equipment redistributions and equipment acquisitions
- Phasing of maintenance-oriented units to be stood up to sustain the equipment associated with the 202,000 growth.

We are currently working to provide the facility and infrastructure requirements for this growth. Doing so requires that we evaluate environmental impacts and work with local community planning organizations to consider impacts associated with increasing the population at our installations. The requirements run the gamut from facilities that specifically support a new unit; to improving training ranges, transportation, and utility infrastructure; to ensuring sufficient schools and other private sector infrastructure is in place.
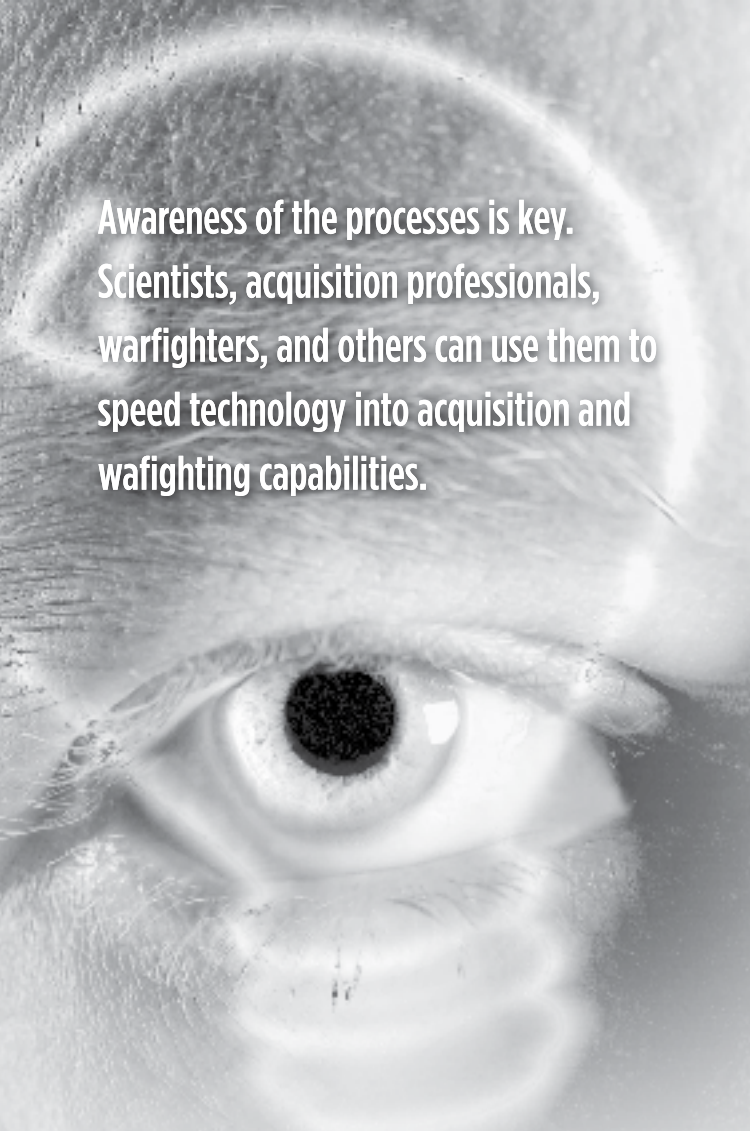
The National Environmental Policy Act process will ensure that environmental impacts and community planning considerations are fully addressed for all facility requirements. There are many additional considerations attendant with this type of growth. We must ensure we plan for sufficient facilities such as mess halls, adequate services such as child care, and minimization of impacts to over-stressing the community infrastructure support. My staff is actively working with the bases and communities to ensure we have identified these challenges and are developing solutions to mitigate potential issues before they become problems.

Q

Thank you for your time, Maj. Gen. Usher.

The Rapid Insertion of Technology in Defense

John J. Kubricky

Awareness of the processes is key. Scientists, acquisition professionals, warfighters, and others can use them to speed technology into acquisition and wafighting capabilities.

I n Iraq, U.S. forces used jammers to disrupt enemy radio transmissions. But the jammers interfered with friendly radio communications, so troops turned them off, taking their chances with attack. "There is a burning need for a joint entity to police the battlefield

and bring organization to the jamming," stated *Aviation Week*, and combatant commands wanted it met. In 2006, a Joint Capability Technology Demonstration (JCTD) was launched. In a year, it had frequency management technology ready for field trials.

Technology transition has become of utmost importance, stated Deputy Secretary of Defense Gordon England. It must rapidly meet the warfighter's needs and stay ahead of adversaries. There are processes that can rapidly insert technology into defense materiel, and awareness of them is key. If you do not know about the processes, then they cannot help you exploit technologies to maintain the warfighter's advantage.

A Fast, Tough Game

Technology transition—also called innovation—is about moving an invention out of a lab and into use. The time between invention and innovation is shrinking. The electric light bulb, invented in 1800, was improved and commercialized by Thomas Edison later that century. By comparison, personal computing software, invented in 1973, saw exploding use in the next decade. Today, development of consumer electronics takes six months.

Technology transition and innovation are also global, reflecting a "fierce global scramble for supremacy," according to the President's Council of Advisors for Science and Technology. Today, many innovations swing between the marketplace and battlespace. Consider cell phones: They can transfer money and detonate explosive devices.

Defense must now move technology faster than before. In the Cold War, defense only had to be faster than a ponderous Soviet Union bureaucracy. It is estimated now that Iraqi insurgents develop countermeasures to our capabilities in less than two weeks.

"Accelerating the transition of new technologies into systems and products will be crucial to the Defense Department's development of a lighter, more flexible fighting force," according to the National Academies. Recently, defense established 25 transformation priorities, many requiring technology transition.

Yet, moving technology is hard. "Bureaucracies were not supposed to innovate," wrote Harvard University's

Kubricky is the deputy under secretary of defense for advanced systems and concepts and formerly the Department of Homeland Security's director of systems engineering and the Homeland Security Advanced Research Project Agency. A Vietnam veteran, his career in the defense electronics and systems industry spans four decades.

Stephen Rosen. Many corporations follow their technologies into obscurity. In defense, it is evidenced by slow technology adoption. Unmanned aerial vehicles were used in Vietnam but were not widely used until the late 1990s.

Technology transition and innovation face obstacles. Dr. Raymond Damadian was called a lunatic for pursuing magnetic resonance imaging in medicine. An early laptop computer was quietly built after its developer's corporate executives opposed it. Referring to the now widely used UAV, President George W. Bush noted the "Predator had skeptics because it did not fit the old ways."

Many transition and innovation initiatives fail because of inadequate processes. From 1976 to 1995, 146 companies were in the computer disk drive industry, with all attempting rapid technological change. Twenty-one survived. Many developed new technologies, but they did not get to market. They "stalled when it came to allocating scarce resources among competing product and technology development," wrote Clayton Christensen in *The Innovator's Dilemma*. Similarly, defense cancelled nine unmanned aerial vehicle programs before 1995, largely because of deficient processes, reported the General Accounting Office (GAO).

Technology Transition in Defense

In 1994, the Department of Defense established what is now the Office of Advanced Systems and Concepts. It introduces innovative technologies inside the traditional planning, programming, budgeting, and execution process. It has defined transition processes based on lessons learned. For example, its Advanced Concept Technology Demonstration process took the Predator UAV from concept to operational system in 30 months, with the GAO reporting, "the ACTD approach to UAV acquisition is consistent with the best practices of leading commercial developers."

AS&C's processes complement service acquisition, helping transition technology into programs at varying acquisition stages. Some move technology from different origins to evaluators, who assess potential use. Other processes move technology into and through production. These processes also may work together. One process demonstrated a fratricide-reducing system for coalition forces, while another cut its manufacturing costs. The processes vary, but have the following commonalities:

Needs-driven—Soldiers and Marines evaluated urban warfare technologies in one initiative, just as combatant commands assessed theater displays in another. The processes are about them, not us. They solicit needs annually. User needs are also known through monthly meetings with combatant commands and the Joint Capabilities Integration Development System.

Awareness of technology—Processes are connected with technology development organizations, formal technology searches across defense, other agencies, industry, academia, and other nations.

Venture capital—This has launched commercial endeavors like overnight delivery, cable television, and biotech firms. Many defense processes similarly fund ventures. And, like venture capitalists, AS&C does not manage projects. It finds and oversees skilled program managers from high-performing DoD organizations.

Sense of urgency to deliver—In January 2003, the Army vice chief of staff directed a platoon-level UAV be rapidly fielded. An existing initiative was accelerated and the first Raven UAV was in Afghanistan in 20 weeks. AS&C's people and processes strive to deliver a capability, usually in one to three years.

Awareness of the processes is key. Scientists, acquisition professionals, warfighters, and others can use them to speed technology into acquisition and warfighting capabilities. In some cases, they were not used, and critical transitions were delayed or did not occur.

Bridging the "Valley of Death"

New technology needs testing to answer application questions so it may be used. That takes money. But often, the money is not budgeted, does not come, and the invention hits the "valley of death." It is a big problem for industry developers of micro-electromechanical systems, tiny actuators, and sensors in systems. Hundreds are demonstrated in labs, but only a few cross the valley.

The defense department has this problem. Its labs develop technology, but the budgeting process cannot fund transition fast enough. Thus, the Technology Transition Initiative was established in 2003 to fund selected DoD technologies. For example, it accelerated the transition of digital tools for planning asymmetric warfare. The First Marine Expeditionary Force and 101st Air Assault Division used versions in Iraq in 2006, with full capability transitioning in 2007. (See < www.acq.osd.mil/ott/tti/ > .)
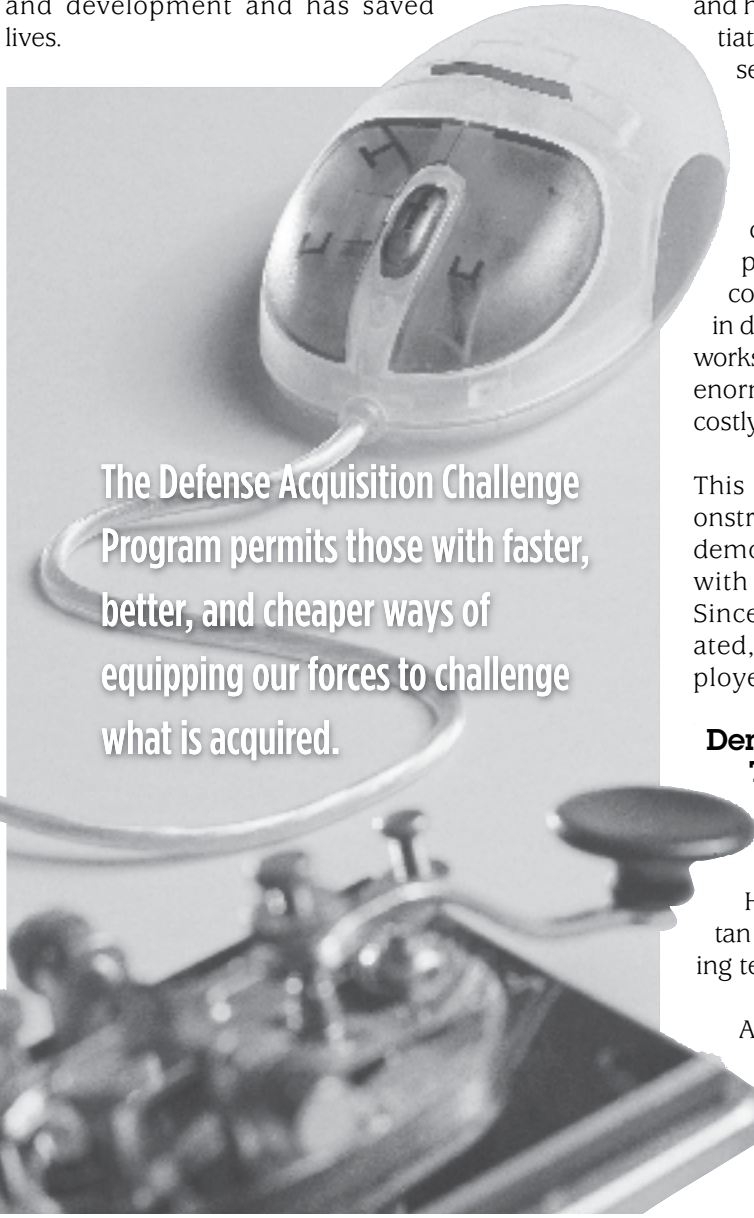
Fast Technology Insertions in Systems/ Programs

Technologies come from everywhere—defense labs, industry, universities, and other countries. Their insertion into programs and systems may extend service life, reduce operating costs, increase reliability, improve performance, and/or provide new capabilities. Two processes "test with intent to procure," enabling such transitions.

The Defense Acquisition Challenge Program permits those with faster, better, and cheaper ways of equipping our forces to challenge what is acquired. Software was proposed that allows one Marine to plan communications

for an upcoming operation in 20 minutes that took two Marines almost 24 hours. The Defense Acquisition Challenge Program funded the proposal's evaluation, and today, Marines use it in Iraq. The process reduces spiral development risks and provides a mechanism for non-traditional suppliers to enter the DoD marketplace. The return on investment is 9:1.

The Foreign Comparative Testing program is similar, but seeks friendly nations' technologies for warfighting needs. Nations' acquisition leverages mature technologies for economic and speedy buys and may be bought from vendors or manufactured under license in the United States. An example is the South African-developed Buffalo mine-clearing vehicle. Following testing in 2002, vehicles were sent to Afghanistan and later to Iraq. In a protected cab, operators uncover roadside bombs using a hydraulic arm. Buffalos are now made in South Carolina. The acquisition avoided more than $35 million in research and development and has saved lives.

The Defense Acquisition Challenge Program permits those with faster, better, and cheaper ways of equipping our forces to challenge what is acquired.

Since inception, the Foreign Comparative Testing Program has enabled more than $8.5 billion in procurement, avoiding an estimated $6.9 billion in R&D costs. It has participation from 28 friendly nations and vendor partnerships in 33 states. (See < www.acq.osd.mil/cto/ > .)

Technology Transition for Multi-Service, Joint, and Coalition Capabilities

In Iraq, U.S. forces used blue force trackers to display friendly units, but Army and Marine systems were not interoperable. A transition initiative enabled shared pictures.

U.S. Transportation Command needed just-in-time delivery because units were ordering multiple items for just-in-case delivery. A transition initiative is enabling a tracking architecture.

Allied forces' surveillance systems were not interoperable and had difficulty finding moving targets. A transition initiative set standards and enabled cooperation on new sensors.

These are ACTDs, replaced by JCTDs. They rapidly find, prototype, demonstrate, and transition concepts and technologies for multi-Service, joint, and coalition needs. They provide a try-before-buy approach, seeking to show a capability is available for combatant commanders and acquisition. This is done in demonstrations with warfighters that determine what works. The goal is an 80 percent solution, which can make enormous contributions, rather than more lengthy and costly 100 percent solutions.

This process has accelerated. ACTDs did final demonstrations in three to four years. JCTDs will normally demonstrate 50 percent of all products in two years, with all demonstrations completed in three years. Since 1995, 182 ACTDs and JCTDs have been initiated, and products from nearly 70 of these are deployed in theater. (See < www.acq.osd.mil/jctd > .)

Demonstrating Game-Changing Technologies

"The revolution will be in uninhabited robots that search and shoot under amazing modes of self-control," wrote Navy Capt. (retired) Wayne P. Hughes in *Fleet Tactics and Coastal Combat*. The Spartan Scout ACTD is enabling that revolution by transitioning technologies to naval unmanned surface vehicles.

ACTDs and JCTDs also demonstrate game-changing technologies that may dramatically change warfare's speed, lethality, and/or cost. Past examples include the radio, airplane, and computer. Such ACTDs and JCTDs often represent a technology push—a developer's belief that a technology of-

fers greater effectiveness or efficiency than current systems. Today, ACTDs and JCTDs are demonstrating such game-changing technologies as directed energy systems; unmanned systems; and networking for situational awareness, targeting, and logistics.

Accelerating Technology to Industry

The battery in your watch—defense helped develop it. But it had to move to industry before it could be widely used. In the Cold War, moving defense technology was slow and uncertain. Today, it must be fast, enabling quick production to address rapidly emerging needs such as countering anthrax threats or new explosive device tactics. Otherwise, technology's value is eroded by delay.

Technology transfer processes rapidly move defense technologies to industry. Once, many companies were unwilling to invest in federal technologies because their investments were unprotected. Today, defense labs protect technology using patent licensing agreements with manufacturers. Technology transfer is also enabled by cooperative research and development agreements between defense labs and industry. These R&D partnerships include nanotechnologies, medical technologies, and biological and chemical defense. (See < www.acq. osd.mil/ott > .)

A corporate executive once complained about defense technology transfers: "What we do is spend an awful lot of time calling people and visiting with people. It can be literally months before you come up with the correct answer." Today, defense technology transfer uses intermediaries to make known and move defense technologies to industry. These are:

TechLink, at Montana State University—Facilitates technology transfer agreements between defense labs and industry. It helped move Army-developed software for hand-held computers, used by battlefield medics to transmit a warfighter's injuries, receive diagnoses, and initial treatments. Systems were produced and deployed to Afghanistan and Iraq. (See < www.techlinkcenter.org > .)

FirstLink, at University of Pittsburgh—Connects defense labs with companies to commercialize technologies for first-responders. FirstLink helped transfer a DoD robot, initially used for under-vehicle inspections in Afghanistan and Iraq. First responders have used it for security at the U.S. Capitol, the Super Bowl, and high-profile trials. (See < www.dodfirstlink.com > .)

DoD TechMatch, part of the West Virginia High Technology Consortium Foundation—Provides an Internet portal, informing industry of available defense technologies, lab capabilities, and R&D opportunities. The Air Force developed a remote-controlled "bombot" that approaches suspected bombs, drops off an explosive, and

races off, all for under $5,000 (and most robots in its class cost $100,000-plus). TechMatch made it known to a company that produced it for use in Iraq. (See < www. dodtechmatch.com > .)

Facilitating Manufacturing of New Technologies

Large aircraft like C-130s and C-17s face missile threats in Iraq. A system was developed that tracks a missile and directs a Viper™ laser to jam its guidance system. The ManTech process increased the Viper laser's production from two per month to 15 to 20, increased laser efficiency by 30 to 50 percent, improved reliability, cut acquisition costs more than 50 percent, and enabled use a year ahead of schedule.

Moving technology to warfighters means moving it through production. The ManTech process speeds manufacturing and looks for ways to produce more capable and affordable systems. Some initiatives improve fabrication. One helped fabricate composites in F/A-18 aircraft, enabling a 40 to 50 percent increase in range. Others improve sustainment. One provided spray-on stealth material for B-2 aircraft, replacing 3,000 feet of tape and caulking on access panels, which were manually removed and reapplied for maintenance. This cut maintenance hours and increased mission-capable rates by 50 percent. (See < www.dodmantech.com > .)

Ensuring Transition of Critical Technologies

Rapid transition of some systems may depend on critical technologies that may not be domestically made or may be too costly to produce. Such was the case with superconducting tape, made of yttrium barium copper oxide. Wrapped around electrical conductors, it can help deliver more electricity than copper wire—enabling more efficient powering of directed energy systems, ships, and aircraft. However, it was too costly. The Defense Production Act Title III program helped two U.S. companies lower the tape's cost, and it is now used in second-generation superconducting for Columbus, Ohio, and Albany, N.Y.

DPA Title III ensures affordable, domestic production of critical defense technologies. It may provide incentives such as a commitment to buy, help firms install equipment, or improve processes. It also may promote substitute technologies. Generally, the program seeks production of stronger and lighter structural materials, which enhance system speed, range, and/or payload capacity; advanced electronic materials leading to smaller, faster, and more reliable micro-electronic devices; and advanced electronic devices or components that enhance system performance. (See < www.acq.osd.mil/ott/ dpatitle3/ > .)

We Are All Innovators

Technological superiority has long differentiated U.S. forces from the world. However, that superiority is al-

DoD Acquisition Best Practices Clearinghouse

A single, authoritative source of useful, validated, actionable practice information

Do these issues sound familiar?

➡ There are many practice lists to choose from but no guidance for selecting specific practices

➡ "Proof of practice" effectiveness is usually not available

➡ The connection between practices and specific program risks are undefined

➡ Success factors for practices are not well documented

➡ Implementation guidance is often missing

➡ The cost and timeliness associated with implementing and using the practices are often not specified

The Department of Acquisition Defense Best Practices Clearinghouse is being developed to address these and related issues.

The DoD Best Practices Clearinghouse (BPCh) can help by ...

➡ Serving as the authoritative source for practices in the Department of Defense and industry

➡ Initially targeting the needs of the software acquisition, software development, and systems engineering communities

➡ Connecting communities of practice, centers of excellence, academic and industry sources and practitioners

➡ Promoting and assisting in the selection, adoption, and effective utilization of "best" practices

For more information, please visit the BPCh site at https://bpch.dau.mil, visit the program's history archive on the ACC at https://acc.dau.mil/bpch, or contact:

Mike Lambert	John Hickok
michael.lambert@dau.mil	john.hickok@dau.mil
703-805-4555	703-805-4640

Do you develop and implement PBL strategies?

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The Performance-Based Logistics Toolkit is a unique Web-based resource, hosted by the Defense Acquisition University, that provides PMs and logistics managers a step-by-step process and readily available resources to support them in designing and implementing PBL strategies.

The user-friendly online PBL Toolkit is aligned with current DoD policy and is available 24/7 to provide—

- A clear definition and explanation of each PBL design, development, and implementation process step
- The expected output of each process step
- Access to relevant references, tools, policy/guidance, learning materials, templates, and examples to support each step of the process.

The PBL Toolkit is an interactive tool that allows you to—

- Contribute knowledge objects
- Initiate and participate in discussion threads
- Ask questions and obtain help
- Network with members of the AT&L community and learn from their experiences.

To guide you through the development, implementation, and management of performance-based logistics strategies—count on the PBL Toolkit from DAU.

You'll find it at < **https://acc.dau.mil/ pbltoolkit** > .

In the Cold War, moving defense technology was slow and uncertain. Today, it must be fast, enabling quick production to address rapidly emerging needs such as countering anthrax threats or new explosive device tactics.

ways being challenged. Around the world, a race is on for technology superiority, market domination, and economic resilience. "The big winners … will not be those who simply make commodities faster and cheaper than the competition. They will be those who develop talent, techniques, and tools so advanced that there is no competition," according to the President's Council of Advisors for Science and Technology.

Within defense, technology transition programs are fostering talent, technologies, and tools to hasten innovation, and therein lie their greatest contributions. They are enabling a climate of constant innovation, which will increasingly be needed to maintain our nation's leadership in technology, and ultimately, our nation's security. These processes help innovators—and that is why awareness of them is important. In an age of mass innovation, we are all innovators now.

The author welcomes comments and questions, which can be e-mailed to annette.beacham.ctr@ osd.mil.

Socrates in Washington, D.C.

Maj. Dan Ward, USAF
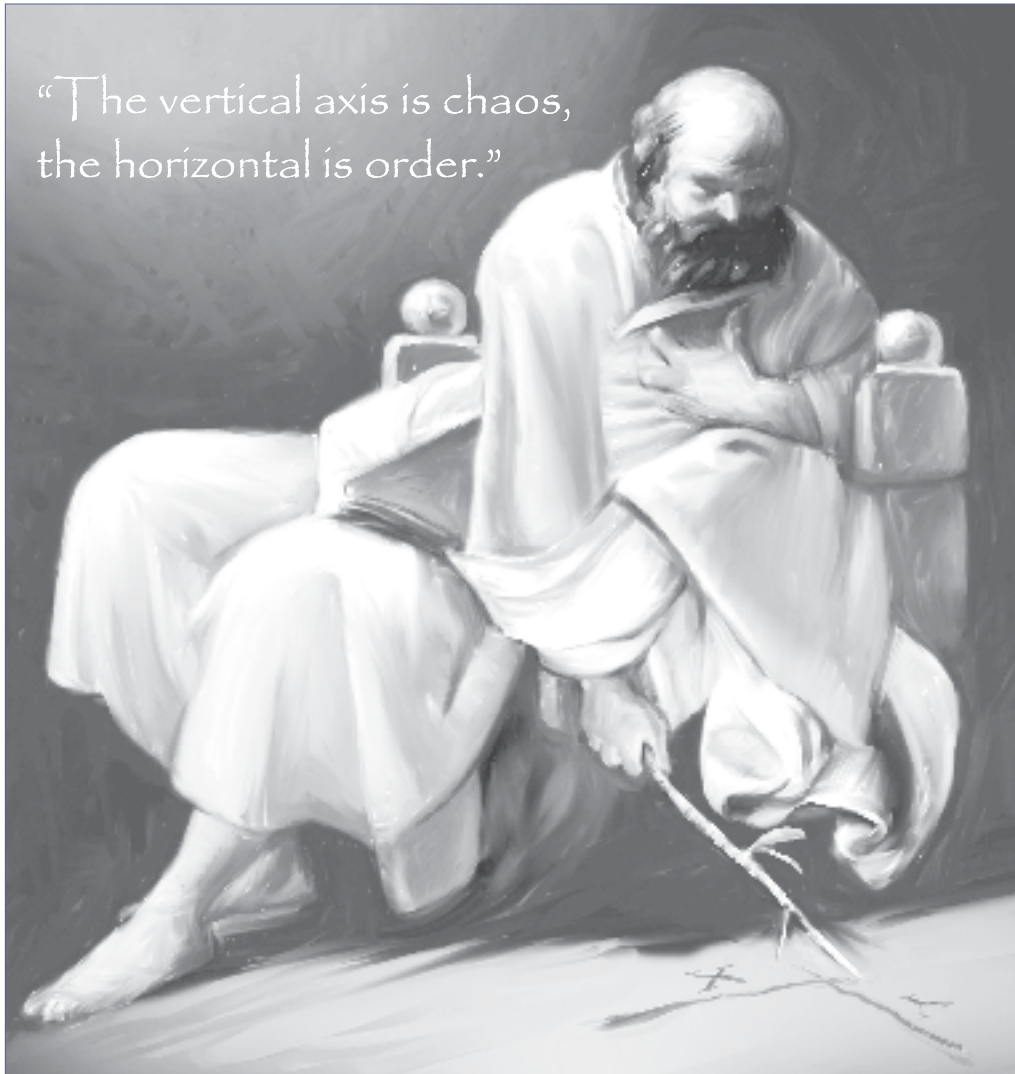
> "The vertical axis is chaos, the horizontal is order."

to *his* capital city, instead of the other way around. A screaming police siren quickly dispelled that illusion.

"Hello, Mr. Socrates," I said, trying to mask my nervousness.

"Howdy," he replied with a careless wave of his hand. "Call me Ted."

Before any of us could reply, he jumped to his feet, spun around, and began running up the steps towards Mr. Lincoln, shouting, "Death to the status quo!" For an old guy, he was remarkably spry. Naturally, we ran after him.

At the top, as we tried to catch our collective breath, he explained: "It seemed an apropos shout, given our location. This whole blessed capital region is one big monument to status quo destruction—leastwise, it used to be. Washington himself

Socrates looked ridiculously appropriate, sitting on the bottom step of the Doric temple in Washington, D.C., known as the Lincoln Memorial. Surrounded by other examples of neoclassical architecture, his flowing robes practically blended in. At any rate, he didn't get more than a passing glance from the pedestrians and tourists hurrying past him. One or two tossed him a quarter, which he received with a mixture of wry amusement and confusion.

As my buddies, Gabe and Quaid, and I approached and saw his robed figure framed by the marble pillars behind him, I briefly wondered if we had been transported back

wasn't contented with the colonial arrangement, so he fought the crown—in more ways than one. First he fought the crown from overseas, then he fought the crown they tried to give him on this side of the pond. He didn't want any continuation of the status quo.

"Lincoln—that great defender of the Union, whose homely mug is enshrined here—wasn't into status quo maintenance either. He set about making a more perfect union, which required shredding the previous order of things, right? That's your legacy, and it's your job. 'Death to the status quo' isn't just a catchy slogan. It's a perpetual mission."

Ward, currently a student at the Air Force Institute of Technology studying systems engineering, holds degrees in electrical engineering and engineering management. He is Level III certified in SPRDE, and Level I in PM, T&E, and IT.

For a guy from ancient Greece, he was remarkably well-schooled in American history. We followed him through the columns and stood before Mr. Lincoln's statue.

"Not everyone wants to demolish the status quo, as you well know. There are plenty of turkeys out there, each with a vested interest in maintaining things as they are. Lincoln, Washington, and I were all opposed by turkeys as we tried to destroy the status quo.

"But counter to what you may have heard, turkeys don't fear change. No, no. In fact, they love it. What they fear is criticism, so they come up with meaningless, uncritical changes. They do little reorgs and other silly stuff. It's a desperate attempt to head off criticism, combined with a studious avoidance of any nudge to the old S.Q."

He turned to face us, his blue eyes shimmering like twin reflecting pools.

"But *you* now, you must all seek out criticism. Embrace it. Let it cut you deeply if it's true, and don't flinch. If it's true and you ignore it, you'll suffer much more than if you face it. You can't imagine how much self-induced suffering turkeys experience because they ignore or deny true criticism. The pain of facing reality is much less than the pain of avoiding reality."

"This is all very interesting, sir," Gabe replied, "But I thought we were going to talk about program management. And aren't you supposed to just ask a bunch of questions?"

"Now, now! I meant it when I asked y'all to call me Ted. And program management is exactly what we are talking about. Did you think I was talking about poultry?"

"Try to keep up, son," he added, not unkindly.

"As for the questions, they were really Plato's idea, not mine; and besides, a guy's allowed to change his methods from time to time, isn't he? Or do I need to go over that whole death to the status quo thing again?" We shook our heads mutely, and gestured for him to continue.

"All right then, program management ultimately comes down to a mixture of turkey farming, fortune telling, and taking care of people. All are messy, imprecise arts …" he trailed off. For several seconds, he stared at Lincoln's marble feet. An awkward silence fell.

Finally, Quaid spoke. "I'm confused, sir … um, Ted. Turkey farming? I don't …"

"Oh yes, turkey farming. See, you can't get rid of all the turkeys. They multiply too quickly, and they tend to stick around whether or not you want them to. The best we can do is keep them from eating all the seed corn and pooping in the water dish. Dr. Jerry Harvey calls it 'Phrog Farming' in his Abilene Paradox book [*The Abilene Paradox and other Meditations on Management*], but it's really the same thing."

My head was spinning, and a glance at my companions showed mine wasn't alone.

"Confused?" Ted/Socrates said. "Good—that means you're paying attention. Did you really think I was going to tell you about some new program management process or give you a checklist? If so, it's been too long since you've read your Plato.

"Processes and checklists can help, lads, but they'll only get you so far. Real wisdom (programmatic or otherwise) is in metaphors, stories, and songs, not in lists and bullet points. Don't take my word for it—ask Plato, Buddha, Jesus, or Bono. None of them ever wrote a bullet-point list in their lives.

"See, the world doesn't need another list of the Top Ten Vapid Platitudes for Program Managers. We've already got plenty of those, and most aren't worth spit. What we need are people willing to live interestingly and who can tell a good story."

> The pain of facing reality is much less than the pain of avoiding reality.

We wandered over to the Lincoln Memorial souvenir shop, which suddenly looked more out of place than our robed sage. He took all the postcards off the rack and shuffled them as he spoke.

"In a complex, dynamic environment, rules are for fools with no principles. That's an overstatement, of course. Rules aren't all bad. But when we completely rely on rules instead of principles to direct us, we need a rule for every situation. Taken to its logical conclusion, unless we're living in a simple, stable environment, we end up with one of two outcomes: Either the rulebook gets so long nobody can understand it, or it stays small and doesn't address a significant number of actual situations." He paused. "Come to think of it, that's pretty much the same outcome. Worthless!

"But principles … ah, a small body of principles can guide us in a large variety of situations, including unique and unanticipated ones. Think of rules as

boundaries, while principles are vectors. Both provide guidance, but a vector is much better. It's a positive rather than a negative, for one thing. It says, 'Go here,' not just 'Don't go there.' That's a big difference. Do we need both? Sure. But we need principles more, and we need to be able to throw the rules out the window from time to time.

"Ultimately," he continued, "a rule of thumb is better than a rulebook as thick as your thumb, and a pocket full of heuristics is better than a list of them. See, if you check a list, you tend to pick from the top. It's human nature. We all have in-built mental guidelines that say higher is better. But if items of guidance are in your pocket, you never know which one you're going to pull out. You end up surprised, and that's a good thing."

After replacing the newly disorganized postcards in the rotating rack, he leveled another piercing stare our way.

"Let's go check out the Korean War Memorial now." Without a pause, he gathered up his robes and ran down the Lincoln Memorial steps, scattering tourists and poultry alike. As he ran, he sang at the top of his voice. The song was a surprisingly up-tempo rendition of *Send In The Clowns*. It didn't sound half bad.

Among the bronze figures of Korean War soldiers, the lesson continued.

"If we learned nothing from the work of Dr. B. F. Pierce, it's that the humorless stuffed shirt who constantly spouts regulations is always wrong, even when he's right. People like that think they are an asset, but as Dr. Pierce correctly pointed out, they're off by two letters."

He paused. "I take it you *are* familiar with Dr. Benjamin Franklin Pierce?"

We looked at each other and shrugged.

"Perhaps you recognize him by his nickname—Hawkeye? From *M*A*S*H*, you know."

For a guy from ancient Greece, he was remarkably well-versed in American cinema and TV.

"And I do believe it was this same Hawkeye who said, 'If we don't go crazy once in a while, we'll all go crazy.'"

We settled down in the shade of a nearby tree.

"Don't misunderstand. It's not that rules and regs aren't helpful. Heavens, where would we be without our blessed regs? But like the turkeys who love 'em, regs have an irritating tendency to overstay their welcome and overtake common sense, so we need to have some irregs too."

He let out a huge laugh, scattering squirrels and pigeons, then he leaned in and spoke in a low whisper. "Those humorless turkeys, with their overregulated binary worldview, insist on creating order and driving out chaos. They strive to anticipate and categorize everything into neat rows and columns. But chaos and order are actually independent variables, not opposite ends of the same spectrum. Watch closely."

He drew an x-y axis in the dirt.

"The vertical axis is chaos, the horizontal is order. Some people think the only thing you can do is move along this line." He drew a diagonal line from the upper left quadrant to the lower right, representing an inverse relationship between chaos and order. "Order increases in proportion to the decrease in chaos. That's how turkeys think the world works."

Next he bisected that line with a perpendicular one, from the bottom left to the upper right, explaining as he drew, "But the terrible truth is, there's a whole other dimension here. Sometimes you can increase both chaos and order … and that can be a good thing. Drive out all the chaos, and you drive out all the mystery, all the experimentation, and all the discovery. Drive out all the uncertainties, and you drive out all the life. Leave some chaos in the mix, and the outcome is much better than the locked-down, tightly controlled scenario preferred by turkeys. Then again, sometimes you just end up with a mess. That's always a possibility." He sighed.

Survival Guide for Truly Schedule-Driven Development Programs

Sue Neves ▪ Jack Strauss

Schedule-driven development programs are different from standard acquisition efforts. All programs have a measure of schedule pressure. Once baselined, the "iron triangle" of cost, schedule, and technical scope is at play. But truly schedule-driven development programs behave differently and have different needs. Attempting to plan, execute, and manage a truly schedule-driven development effort as if it were a standard acquisition program done faster will not work, will slip, will cost more—and will probably get you fired.

For standard acquisition programs, the delivery of capability/maturity, in terms of program structure and tasks, is well known and fits nicely into the Department of Defense methods, processes, and culture. This is shown by the solid line in Figure 1. A schedule-driven development effort has different behavior. It surges, is less predictable, and does not fit as well into the DoD methods of oversight and reporting. Then why do it? The promise of the schedule-driven effort is that the capability can be delivered before that same capability could be delivered through the standard approach, as shown by the dotted line in the figure. The benefit is time savings (which may mean some cost savings) or a critical combat capability delivered when promised or earlier, or both.

If, however, the schedule-driven program is not resourced correctly in the early phases of the effort, it will slip. The DoD acquisition system, which has been stressed by the very existence of the effort in the first place, is now required to fix what looks like very poor program performance when compare the expectations of a standard program, as depicted in Figure 2.

Our experience shows that the factors we are going to discuss are key to determining the ability to actually accomplish a truly schedule-driven development program. Clearly there are other factors, but the ones we found were the most obvious, at least in hind-sight. Use these factors to plan a program for success if you are in the planning phase, or use them to diagnose an ongoing effort.

> **Truly schedule-driven development programs… require extreme methods to realize the benefits they offer. They are not standard programs done faster.**

Lean Requirements

At the very onset of the system design and development portion of the program, all trade space in program requirements should be reviewed and identified. Getting part way through the program, then discovering the contractor is

Neves *is an electronics engineer with 24 years of procurement engineering experience. She has bachelor's and master's degrees in systems engineering from Wright State University.* **Strauss***, a systems engineer with 30 years of experience, has a master's degree in electrical engineering from the Air Force Institute of Technology and a postgraduate certificate from Stanford University.*

Figure 1. Schedule-Driven versus Standard Program—Well Executed

Well Executed = Time and Therefore Cost Savings

Figure 2. Schedule-Driven versus Standard Program—Poorly Executed

Not Well Executed = Less Savings

is still developing the system while testing it and starting to produce it, many—at least half—of the development assets will require updates as the design matures. The only way to facilitate the updates is to have the excess (with respect to nominal) capacity to accommodate them. Please note that the recommendation to double capacity is conservative; quadrupling would be better. Optimization in this area is for standard programs and production efforts, not for truly schedule-driven development efforts. If you optimize too early, you doom your program to being unrecoverable in schedule if testing reveals the need to change (and that's a certainty in a development program). Also, be sure that the doubled capacity comes on line no later than midway through the program. If it is any later than that, you discount its impact and ability to recover. Be creative with leases or loans or procurements of equipment, but make sure it is there when you need it—all of it—for as long as you need it. Your capacity will be your last line of defense when your design is maturing. Expertise in this area allows you to reuse most, if not all, of this capacity in your production phases and thus control program costs downstream.
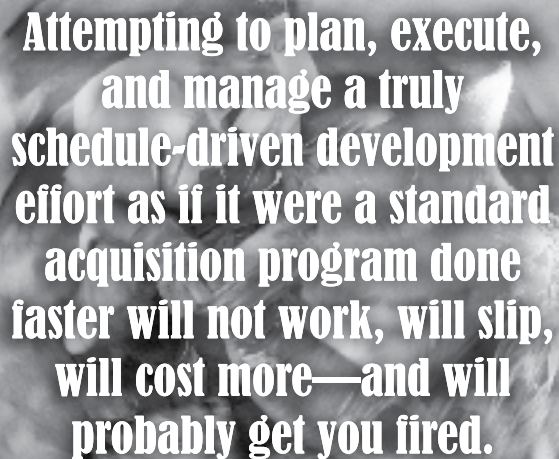
Development Asset Procurement

Procure 20 percent more development assets than nominal requirements. If you think you need 10 prototype systems or engineering development models, then procure 12. You will, in fact, drop, overheat, or just wear out your engineering development models. Additionally, you must have enough assets to accomplish simultaneous test and lab/support activities. If you don't have enough assets to replicate flight test in the exact, identical configuration in your labs, your program will slip as you attempt to complete development on the flight test asset, which is ill-suited for the task and extremely costly.

Consistent Engineering Discipline

Insist on engineering discipline. Cutting corners here is exactly the wrong thing to do. The only sure way to make decisions fast and make them only once, is to have all the data and to follow disciplined engineering methods. These data include root cause analysis, test results, results from modeling and simulation, and the outputs from proven engineering methods. Disciplined configuration management is a real key here. It is critical to understand exactly what is being changed and why. To paraphrase Sir Arthur Conan Doyle, "Never guess, as it is a mistake to theorize before one has data because one begins to twist facts to suit theories, instead of theories to suit facts."

struggling to comply with a tradable feature or capability, and then bargaining away that trade space is wasteful of resources and precious time. Make the performance requirements as lean as possible right from the start; you don't have the luxury of time to massage the objective performance thresholds. All requirements should be at the key performance parameter threshold level, with objective and threshold being equal in every case. The rationale is this: Pass/fail thresholds are much easier and clearer to meet, defend, and communicate. This will enable you, as the government procuring official, to stand firm while insisting the lean requirements be met.

Development Capacity

Development capacity is defined as the actual capacity to fabricate your development products. Your capacity must be at least twice the nominal requirement. For example, if you are going to fabricate 10 systems over a two-year period, then your capacity must be planned for a rate that would yield 20 over that period. Since your program

> **Attempting to plan, execute, and manage a truly schedule-driven development effort as if it were a standard acquisition program done faster will not work, will slip, will cost more—and will probably get you fired.**

Award Fee

Be very careful with award fees. Incentivizing contractors by establishing objective award fee criteria to provide a capability by a certain date has been proven to affect their behavior in unintended ways. Technical and cost discipline gets compromised to favor the schedule-driven objective event. For example, we have witnessed proposed specification changes to allow for delivery of non-compliant assets, not because the specification change was warranted or technically defendable, but to meet an objective award fee date. The real trick is to paper the deal with clear definitions of performance thresholds and system configuration for the capability. Additionally and equally important is a clear means of government acceptance of the capability (for example, the DD 250 material inspection and receiving report, which is the government's method for accepting delivery of systems). However, don't underestimate the level of amateur lawyering in which your contractor will engage to campaign for the objective award fee, for political reasons, when the objective was clearly not met. Under extreme schedule and award fee pressure, malicious compliance may emerge (and in our experience has) for any unclear definition, configuration, criterion, or acceptance method. Negotiation tactics come into play as people try to argue that the award fee words did not really mean what they clearly said. Beware of late-game arguments that start with the words "its intended purpose…." It is our strongest recommendation that only subjective criteria be applied to critical schedule-driven program events. That enables the government procurement team to exercise that subjectivity with awarding the fee, as we've seen the inclination to do with objective criteria, without losing credibility by arguing semantics and thus compromising its integrity by contradicting its own award fee plan. If the fee-determining official is provided clear and unambiguous subjective award fee crite-

ria matched to real program status, you have done your job, and the subjective criteria can be objectively applied to your program. If this line is held for two consecutive award fee periods, all participants will trust the process, and the tool becomes powerful rather than an extraordinary distraction.

Approval Authority of Products and Documents

The flip side of what we just said is that the government must not trade away approval authority in the interest of saving time. The government program offices must be resourced so they do not fall into the trap of streamlining to the point of waiving approval for acceptance test procedures, qualification procedures, specifications for critical subassemblies, producibility and manufacturing plans, logistics support plans, and so on. Without government approval of key acceptance criteria, the government may find itself contractually bound to accept a non-performing capability and paying an award fee on top of it. (This is also known as accepting garbage on time.)

Funding Risk Areas

Generously fund the technical risk area, and don't be afraid to use it. Push your contractor—and yourself—to actually develop the risks and their mitigation plans. A few extra days at early program management reviews and design reviews are a small price to pay for this contingency. Risk plans that merely exist in presentation material and have not been developed so that schedule, performance, and cost impacts are known in terms of the program integrated master schedule, system specification, test plans, and development capacity are worse than having no risk management at all. Your leadership will think risk plans exist when they really don't. Or, equally as bad, priced risks will show up in your cost estimates for the next phase as a factored increase, and you will have no technical rationale to support otherwise.

Truly schedule-driven development programs are rare. They require extreme methods to realize the benefits they offer. They are not standard programs done faster. If you can't afford to implement the measures discussed above, then don't start. If you find yourself in a truly schedule-driven development program that has not been adequately resourced, then consider the steps outlined above. Influence change in those areas anywhere you can; some can be modified, even if the program is already under way. By doing so, you may be able to reduce the risks of a schedule-driven program and minimize the impact when the going gets tough and the pressure against the program schedule increases.

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A Better Cost-Estimating Tool

The Key to Not Going Over Budget

Mike Young ■ *with Ted Markley*

Data and techniques exist that can improve the process and accuracy of weapons systems cost estimation.

Department of Defense weapons systems and program developments have received considerable unwanted attention, not because of innovative design issues, but rather, because rising costs concern those who control the money. In fact, cost overruns in some programs have pushed the price well beyond the original estimates.

Historical Lessons of High Costs

This is not a new phenomenon to DoD. Weapons acquisition throughout U.S. history experienced numerous cost-estimate errors. Among the first contractors bedeviled by cost problems was Joshua Humphreys, the creator of the Navy's first six frigates. These ships were designed to be heavily armed and able to outgun any European ship of a similar class, yet fast enough to outrun any larger ship in a light breeze. The big frigates had special construction requirements that required live oak timber for critical components. According to Ian W. Toll, author of *Six Frigates: The Epic History of the Founding of the U.S. Navy*, several hundred live oak trees were needed for each ship.

There was a problem, though. Live oak grows best in the coastal plains of the southeastern United States. At the end of the 18th century and the beginning of the 19th century, harvesting the enormous live oak trees was a painstakingly slow and expensive proposition because the coastal plains had few roads and an abundance of disease-carrying mosquitoes. So expensive, in fact, that in 1794, the U.S. House of Representatives appointed a special committee to investigate how $7,000 could be spent on timber in a single month, especially when the estimated cost was much lower. Pointed queries were made, egos were wounded, and political posturing abounded, but the program edged on to a satisfactory completion.

Reasons for Cost-Estimating Problems

Looking at this example and numerous other occasions in DoD's history in which new weapons systems resulted in significant underestimations of costs, three factors appear to be associated with costing errors:

■ A new technology or concept is introduced. In Joshua Humphreys' case, the innovation was the design of the ship and the materials required.

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Figure 1. **Data Construct**

Central node: **Radio Frequency System Components/ Modules Cost Estimating M&S Tool**

Surrounding categories and their bullet points:

Academia
- Engineering regimens
- Component characteristic modeling
- Complex problem modeling
- Data warehousing methodologies
- Database structure optimization
- Business optimization

Return Material Authorization Data Stores
- Component failure data
- Environmental factors/data
- Modeling and prediction

Commercial Radio Frequency Manufacturers
- Parts data
- Radio frequency component specifications
- Component trends
- Market considerations
- Component characteristic modeling
- Complex problem modeling
- Commercial sector trends

Goverment Research Laboratories
- New development details
- Historical development costs
- Technology forecasts
- Performance
- Characteristic cost mapping

Navy Program Management Offices
- Program costs
- Schedule considerations
- Navy needs
- Technology insertion
- Cost/schedule slippage

Statisticians
- Cost-estimating relationships
- Curve modeling and fitting to
- Radio frequency module performance
- Risk analysis
- Combinational modeling
- Fidelity/accuracy

Naval Inventory Control Point
- Shipboard/ system parts data
- Contracts info/details
- Warehousing, etc.
- Performance-based logistics issues

Cost Estimators
- Common cost-estimating techniques
- Cost-estimating processes
- Cost-estimating relationships
- Trends in Navy cost estimating

System Developers
- System-level expertise
- Development costs
- Production costs; learning curves
- Quantity effects on cost
- Existing system upgrades
- New system needs/vision

- Changes in design after the system is in production. These changes invariably result in unintended consequences and additional costs.

- The contractor routinely accepts that the technology is mature and there will be no design modifications after the system is produced. This results in an initial low-cost estimate that is very often unrealistic.

At the beginning of the 21st century, problems with cost-estimate accuracy, a history of cost growth, and high visibility have caused DoD program managers to seek more detailed cost estimates with frequent updates. However, manic attention to cost estimating also has its price. Program management and engineering personnel throughout the defense industry expend time, energy, and resources in developing, validating, and certifying cost estimates. The unplanned workload and reporting requirements are placing a strain on an overburdened logistics system. In many cases, programs simply have inadequate staffs to manage the contracts.

Not Enough Time

There is a growing need to develop cost estimates to support a variety of managerial, programmatic, and engineering requirements, and get it done fast. That's another cost-estimating problem. Routinely, the technical community receives a proposal to improve a weapons system's performance to meet emergent requirements. Once the proposal is briefed to the chain of command, the project engineer is asked, "How much will it cost?"

While searching for a quick response, the project engineer is asked another question: "How soon can you get me a rough order of magnitude [*ROM*] on the cost?"

The project engineer does a mental retrieval and concludes that a full bottoms-up engineering estimate is needed, but that will take too long—about three to four months. The project engineer knows it has to be faster, so he throws a number out. "I need a month to develop a ROM."

"Give me a ROM in two weeks if you really want any chance of funding this initiative," is the reply.

The project engineer walks away thinking, "How am I going to develop a sound, engineering-based cost estimate in two weeks?" Of course, the project engineer is correct. It will take several months, or even longer, to develop a realistic cost model of a complex system or major system upgrade, as well as the logistics tail associated with any change to a fielded system (spares, technical manuals, allowance parts lists, planned maintenance systems, integrated logistics support plans, and so on).

The related scenario is typical of situations encountered daily in defense industry engineering efforts. A tool is needed to enable a robust, engineering-based modeling and simulation of system-level technical characteristics, including the required performance parameters and associated costs. It must be an automated tool that helps streamline the existing laborious process of collecting component data and projecting technical cost for performance trades, and that assists in determining schedule considerations and technology maturity.

The Tools Are Out There
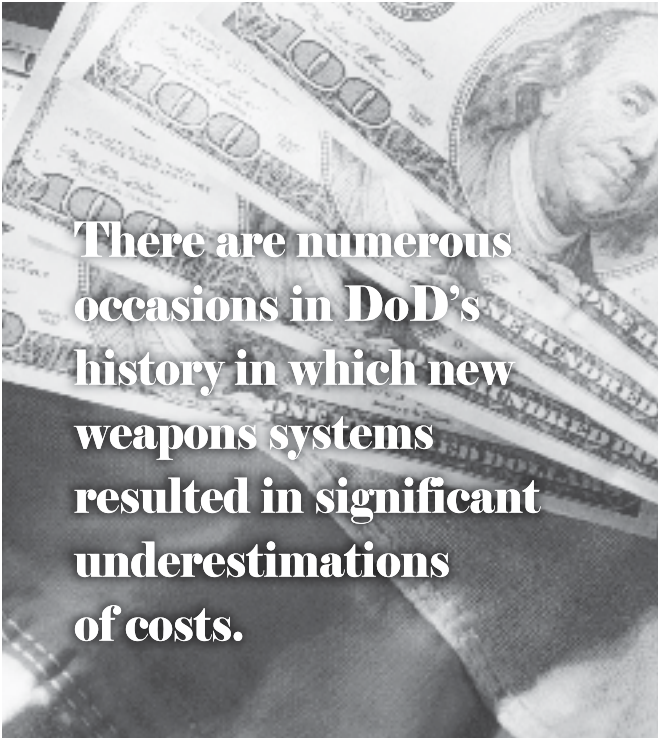
Many of the elements of the M&S system are readily available. There is an abundance of technical data available from component manufacturers and government research activities. The project engineer's vision can provide the required system parameters. With the data and expertise in place, all that is left is to establish the statistical relationships between the data, weigh the relative importance of the data, and possibly develop a qualitative ranking schema. Thus, the resulting estimate will be based on historical and factual data, coupled with projections of new developments and price points from
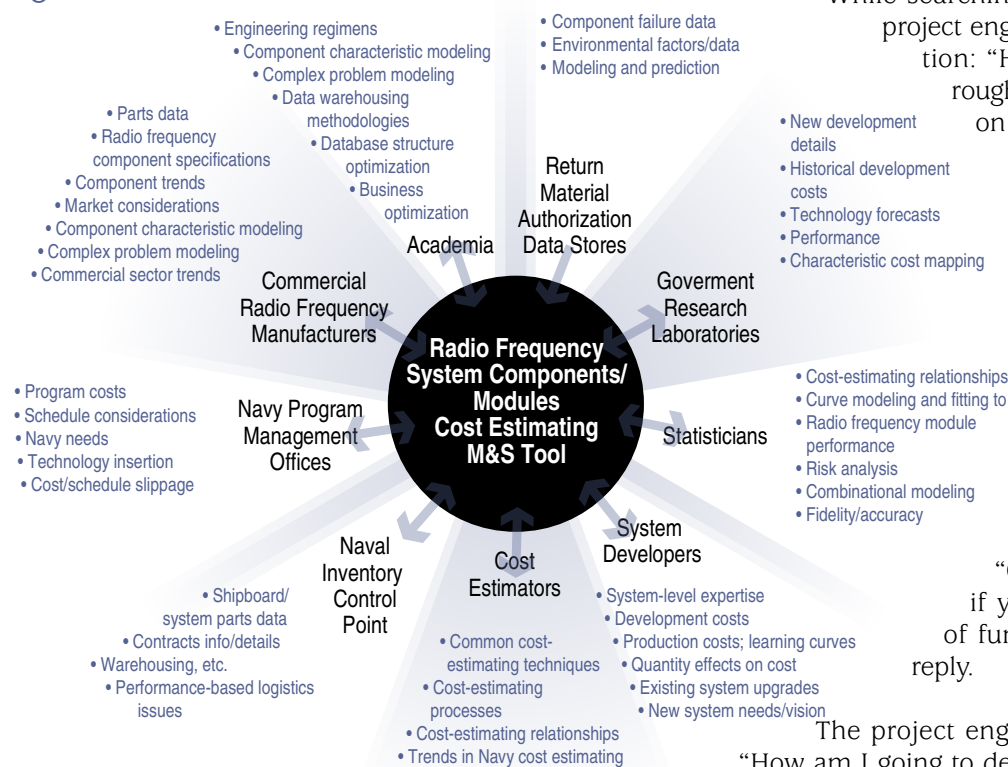
> **There are numerous occasions in DoD's history in which new weapons systems resulted in significant underestimations of costs.**

research activities and with the project engineer's vision for the desired architecture.

The algorithms and statistical modeling as well as the complex relational database storage and retrieval systems have been developed for other DoD applications over the past five years. It is feasible that a system-level M&S tool can be developed to actually model system-level performance and associated costs and schedule considerations. Taking advantage of the DoD tools available will allow the creation of an M&S cost-estimating system that can easily develop complex estimates in a timely manner.

Once the base estimate is developed, the project engineer and program personnel can evaluate "what ifs" by varying the performance characteristics, thus testing the system's maximum performance potential with minimal cost and schedule factors. Performing the test in a digital data environment will create sufficient rigor in the estimates and will provide the ability to quickly and efficiently develop various scenarios with the data—including system-performance characteristics—resulting in a comprehensive system-level cost estimate.

Current Cost-Estimating Methodologies

Typically, cost estimates are developed by the selection of one or more estimating methods. The methods are usually determined by the amount and quality of available cost data. There are three common types of cost estimating:

- **Parametric cost estimates** use an equation to represent the cost-estimating relationships between one or more

characteristics of a system to an element of its cost. An example of a parametric cost estimate may be an estimate based on the system's weight or the space it will occupy on board the ship.

- **Analogy cost estimation** compares the proposed system to an existing system that is similar in design or operation. For example, a proposed radar system may be evaluated against an existing similar radar system.

- **Engineering cost estimates** are based on detailed bottoms-up calculations and are the most time-consuming of the three techniques. Extensive amounts of detailed data and labor hours are required for this approach, and still the quality of the estimates is dependent on the credibility of the data available.

Modeling and Simulation-Based Solution

The ideal M&S-based cost-estimating system will use all three of the aforementioned cost-estimating methods, blending data stores of parametric data, existing systems costs (historical data), and detailed cost and technical data at the component level.

A preliminary systems design can be created based on the accumulated data and on a series of customer responses. The weighting of each of the models' cost-estimating methods will be adjusted based on the relative accuracy score of each specific data element. The result is a detailed, composite cost estimate based on all available data at the time of the estimate. To validate the reliability of the model, actual historical cost data will be used to develop a cost estimate, and then historical actual cost data will be analyzed to refine the ability of the model to accurately predict future estimates. As actual data become available, the model will be updated automatically to ensure that the data weighing and statistical relationships are optimized.

Figure 1 is the proposed data construct for a radio frequency system components/modules cost-estimating M&S tool. The data construct shows the source and nature of the information to be collected and stored. There is a pathway of two-way communication between an M&S cost-estimating tool and all of the key data holders: academia, risk management analysis data stores, government research laboratories, statisticians, original equipment manufacturers and system developers, cost estimators, naval inventory control point, and commercial radio frequency manufacturers.

In Figure 1, a series of technical interchanges is conducted to ensure the development of the radio frequency system components/modules cost-estimating M&S tool, guided by expert knowledge and best industry practices. This knowledge is captured and leveraged via Lean Six Sigma and teaming arrangements.

Figure 2. **Modified Waterfall Incremental Build Model**

A combination of models is used to create realistic cost estimates for weapons systems. Cost-estimating models used in the weapons system cost-estimating M&S tool will include a parametric model, an accounting model, a simulation model, and statistical simulations. The parametric model will contain a set of equations, each of which relates costs to parameters that describe the design, performance, operating characteristics, or operating environment of a weapons system. An accounting model will be included and will contain a set of equations used to combine elements of costs from simple relationships or direct inputs. Some elements will be computed on the basis of unit cost and procurement quantity while others will be estimated using separate models or methodologies. These estimates are provided to arrive at an aggregate estimate of costs. A computer simulation model will determine the effect on costs of a system's characteristics, operational constraints, base concept, maintenance plan, and spare and support requirements. The simulation model will break costs into workable elements for which estimates are then developed using hardware parameters (such as reliability, maintainability, etc.). Statistical simulations will be used over time to generate probability density functions that describe the impact of system characteristics, operations, and maintenance concepts. Because of the large amount of data required, the use of such models is normally limited to the later program phases in which sufficient amounts of detailed data are available.

Putting the Tool to the Test

How effective is the M&S tool in developing complex cost estimates? Let's provide a proof-of-concept demonstration in which we'll develop ROM cost estimates on state-of-the-art radio frequency technologies to be inserted into existing and new radio frequency systems. The initial focus of this M&S effort will be on the radio frequency sub-systems and components of a radio frequency system.

To develop the M&S cost-estimating system, a systems engineering development analysis and initial development will be performed. A systems engineering approach to the cost-estimating procedure will ensure a disciplined methodology based on proven techniques. This process will require a number of studies, and it will include analyzing needs, operational requirements, functions, concept of operations, and performance. When the studies are complete and the lessons learned, conclusions and recommendations are evaluated. The development phase will begin.

If the initial development is successful, additional system modules will be developed using a spiral development, or a modified waterfall incremental build model, depicted in Figure 2. The actual steps in each block will be refined based on input and consultation with team members, academia staff, users, program office representatives, and expert data stores/management personnel.

Even though this is primarily a software development effort, the principles of systems engineering still apply. System engineering principles and methods would be applied to all aspects of the management and engineering development phases during the development of this project. As spiral development continues, the products will be built and improved upon to provide users with a more robust, accurate, and useful M&S cost-estimating tool. Enforcing the rigors of systems engineering, technical reviews will be conducted on the following: cost model assumption, data manipulation history, and the statistical cost curves used for cost elements and sub-elements. The technical reviews will be conducted by peers and subject matter experts.

The Changing Face of Cost-Estimating Methods

Both historically and today, DoD is facing a persistent problem of inaccurate cost estimates based on outmoded and inadequate methods. However, data and techniques exist that can improve the process and accuracy of weapons systems cost estimation. The storage of all cost-estimate models will allow timely updates and refinement of the overall model. The alternative is to continue with the current cost-estimating methods, and we can expect many of the same results that plagued Joshua Humphreys and his six frigates at the beginning of our Navy's history: Cost overruns, missed schedules, pointed inquiries, wounded egos, and political posturing are the inevitable companions of poor cost estimates.

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The Future of DoD Acquisition Reform

Acquisition Centers of Excellence

Glenn L. Starks

Joint acquisition strategies within the Department of Defense will lead to greater efficiencies in meeting national and international demands on DoD. These efficiencies include streamlined acquisition processes, standardized acquisition procedures, a fusion of acquisition regulations, and, perhaps most important, established Centers of Excellence that are more agile and capable of meeting the dynamic needs of the warfighter and other DoD customers.

What is a Center of Excellence?

Various agencies within DoD acquire many of the same products and services, and award contracts to many of the same suppliers. For example, DoD agencies individually procure parts, and many are purchased from the same suppliers. DoD agencies also individually acquire services such as security, information technology, training, and installation. In an age of outsourcing, agencies are contracting for many of the same public services from private providers. Those services range from payroll and administrative support to data analysis support.

This situation creates opportunities to merge the requirements of agencies through joint acquisitions—by creating a Center of Excellence—and streamline DoD's overall acquisition process. There are many opportunities for contracting synergies across agencies, mainly because the requirements to obtain these services are relatively uniform across DoD.

Establishing a Center of Excellence

Centers of Excellence can be established in several ways. They may be established within agencies that already have expertise in specific areas. For example, the Air Force has expertise in procuring parts and services in support of aircraft. One of its sites might establish a contracting Center of Excellence for acquiring maintenance support across Services when its aircrafts have similar technical specifications or are provided from the same supplier.

Centers may also be established within an executive branch outside DoD. For ex-

ACQUISITION CENTERS OF EXCELLENCE CAN PROVIDE VALUABLE BENEFITS TO DOD IN ACCOMPLISHING ITS DYNAMIC AND EVOLVING MISSION.

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Example of the Center of Excellence Concept

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                        ┌──────────────┐
                        │    Chief     │
                        │Administrator │
                        └──────┬───────┘
    ┌─────────────┬───────────┼──────────────┐
┌───────────┐ ┌───────────┐ ┌───────────┐ ┌───────────┐
│  Board of │ │Acquisition│ │Acquisition│ │Acquisition│
│ Directors/│ │Specialists│ │  Policy   │ │  Support  │
│  Advisors │ └───────────┘ └───────────┘ └───────────┘
└───────────┘
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Board of Directors/Advisors	Acquisition Specialists	Acquisition Support	
Army	Contracting Officers Technical Representative	Legal	Finance
Air Force	Memorandum of Agreement (MOA)	Administrative Support	Information Technology
Navy			
Marines			
DLA and Other Agencies			

ample, the General Services Administration (GSA) awards contracts for services such as consulting and data analysis that can be used by any government agency. Some agencies and offices within the Department of Homeland Security and the Department of Justice have similar needs as those within DoD and, thus, offer opportunities for collaborative contracting efforts.

A third option is for a centralized Center of Excellence to be established and maintained at the DoD-level (i.e., under the Office of the Secretary of Defense). The center can be staffed by permanent personnel, personnel reassigned from DoD agencies, or personnel completing rotational assignments within the center.

A fourth and final option is to outsource the center. Under this final option, however, there must be government oversight of all contracts awarded and administered, and only a government official would be allowed to actually award a contract or obligate government funds.

Organizational Structure

The above figure provides an illustration of the Center of Excellence concept. The organizational structure of each center will vary depending upon the needs and number of customers, number and type of personnel resources required to support those customers, and the type of service being provided. However, the basic structure of each center would be composed of the organizational components outlined in the figure to ensure there is a cohesive partnership formed with primary service providers and recipients, and to ensure that key stakeholders providing

acquisition support are directly involved in decision making and the execution processes. The final organization should be determined by senior personnel from the agencies providing and receiving support, as well as by a champion from their oversight bodies (for example, the under secretary of defense for acquisition, technology and logistics or the GSA chief acquisition officer).

At the top is a chief administrator who oversees the center's operations. The position is responsible for actions taken by the center's personnel and for contracts awarded, and is the senior approving official for all contract awards. This position is also the primary liaison with all agencies that are supported by contracts awarded. The board of directors consists of senior-level officials (or their appointees) of the agencies being supported by the center. Representatives from the Army, Air Force, Navy, Marines, Defense Logistics Agency, and other DoD agencies provide input and oversight of contracts awarded by the center. The members of the board of directors ensure their agency's requirements are understood and adequately covered under joint contracts. They also assist the center in tracking contract metrics. For this reason, representatives are involved in discussions when their organizations are directly or indirectly affected by contracts.

The third line in the figure outlines the operational personnel and other offices or departments within the center. Acquisition specialists award contracts and provide contract administration for awarded contracts. They are supported first by acquisition policy specialists who provide pricing support and regulatory oversight, and assist in the development of business case analyses. Acquisition support includes the legal staff, finance personnel, administrative support, and information technology support. Personnel in the acquisition policy and acquisition support areas may actually be employed within the Center of Excellence or be provided via matrix support from agencies being supported. Personnel in these areas may also support other Centers of Excellence.

The contracting officer's technical representative provides contracting support at the actual customer location(s)

being supported by each contract. These are personnel from each agency or location being supported. They have intimate knowledge of the level of support required by the supplier under contract and interact directly with the acquisition specialist and supplier to ensure the requirements of their respective locations are being supported. Contracting officer's technical representatives provide acquisition specialists with weekly, monthly, or quarterly information on the contractor's performance, depending on the agreed-upon reporting time frames.

> **THERE ARE MANY OPPORTUNITIES FOR CONTRACTING SYNERGIES ACROSS AGENCIES, MAINLY BECAUSE THE REQUIREMENTS TO OBTAIN THESE SERVICES ARE RELATIVELY UNIFORM ACROSS DOD.**
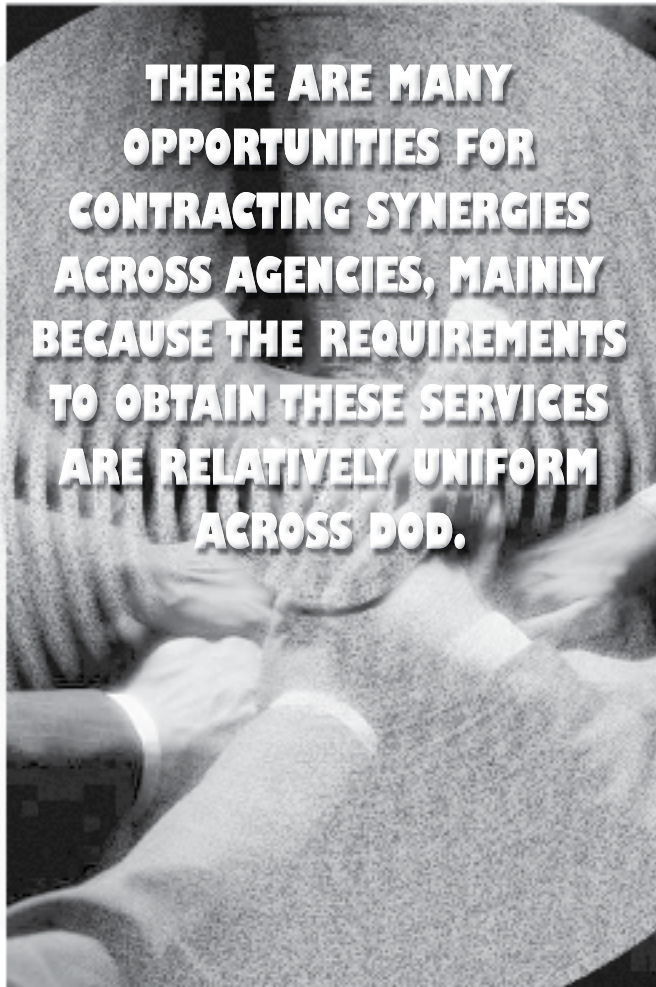
Notice that a memorandum of agreement is put in place between the Center of Excellence and the agency and/or location being supported by a joint contract. An MOA outlines the specific roles and responsibilities of the Center of Excellence, contracting officer's technical representative, and other personnel involved in the administration of each contract. The MOA outlines items such as how joint agency requirements will be developed; how supported agencies have influence on contract negotiations and the determination of suppliers; who is responsible for tracking and reporting metrics; what these metrics are and how they will be measured; what methods will

be used to maintain communication; and who has the authority to alter the terms and conditions of the MOA. The MOA clearly outlines the lines of responsibility and accountability for each contract. Responsible officials from the Center of Excellence and each party being supported sign the MOA.

What Are the Benefits?

Improved oversight of contracts. Agencies often assign contracts for different types of products and services to their contract administrators based on region or industry. A single administrator may have to juggle administering contracts for multiple vendors, sometimes providing similar products and sometimes providing different products from their various divisions. The administrator, thus, does not gain the expertise with the products or the familiarity with the supplier that is needed to provide effective oversight. An effective contract administrator requires sufficient knowledge of supplier capabilities and processes to handle issues and provide effective oversight.

Dedicated personnel can provide faster responses to issues. Dedicated contracting personnel managing contracts based on a specific product or service group can quickly respond to issues such as increases in operations tempo, customer requirements, and other emergency needs.

Acquisition specialists gain expert knowledge of industry practices, the various suppliers available, and the products and services they supply. Industry practices include processes to obtain resources, production processes, and pricing methodologies. Gaining expertise in all of those areas leads to government-industry partnerships that may be tailored to meet the needs of specific customers. Those partnerships that will be a catalyst for more agile approaches to meeting customer needs, and the lessons learned from the partnerships can be imported to other Centers of Excellence.

Consistent application of policies and procedures based on best government and commercial practices is the result of combining the benefits noted above.

What Are the Challenges?
Many issues and challenges potentially exist when there's a single Center of Excellence that provides contract support for various agencies.

Security. Different DoD agencies (and even branches within agencies) have varying requirements for entry to their sites, into different buildings, and to computer systems and information. It is very difficult for a single contract for security personnel, for example, to address varying security requirements and have terms and conditions flexible enough to adapt to dynamic changes in security requirements. In this particular example, contracts could

be segregated by the level of security required; customers with high security requirements could be covered by one contract, those with medium requirements by another, and those with low requirements by another. It is also critical that security requirements be accurately and fully outlined in the MOAs between the Center of Excellence and its customers, and in statements of work and subsequent contracts. Overcoming this challenge requires a clear definition of requirements in performance-based terms, notably in specific guidelines for compliance and an outline of consequences for non-compliance. Requirements should be re-evaluated on a semi-annual or annual basis (depending upon the nature of their criticality to the customer) with all stakeholders involved.

Awarding joint requirements that fully encompass the performance metrics of various customers. A contract covering maintenance services at three defense industrial sites, for example, may require metrics for different technical and quality standards, delivery parameters, onsite support, and cost structures for the same level of support. Incorporating different performance requirements makes it difficult to track contractor performance and also increases the contractor's costs. However, this challenge can be overcome by establishing local, regional, or satellite contract administration offices based on the level of support required by customers, or by adding contract stipulations requiring local customers to provide contract administration support in the area of tracking and reporting contractor performance metrics. On a recurring basis (perhaps quarterly), performance management reviews would need to be held with the government and the contractor to evaluate all the performance data.

Funding. Specifically, each agency supported by the contract must have funds set aside to pay for its portion of the contract. Funds should either be transferred to the Center of Excellence (most often by means of a financial document called a military interdepartmental purchase request [MIPR]) or each agency would have to independently set funds aside in its budget. Funds would have to be available from each agency for the base period of the contract and for each option year. If not, the government would be in violation of the Anti-Deficiency Act, which forbids an officer or employee of the U.S. government or the District of Columbia government from making or authorizing an expenditure or obligation exceeding an amount available in an appropriation or fund for the expenditure or obligation. In other words, government contracts cannot be awarded to commit the United States to make payments for goods or services unless money has been set aside specifically for that purpose. Funds must be available to cover any guaranteed minimum quantities the government promises to buy from a supplier on a contract. This challenge is overcome by ensuring that finance personnel are involved in contracting decisions early in the award process and a MIPR is issued at the time of contract award or that each

agency provides certified proof of funds availability in its financial records. It is also important to maintain a single office of responsibility and accountability for receiving, tracking, and reporting funds.

Other challenges:
- Ensuring all customer requirements are adequately covered in joint requirements. A joint requirements document should be developed to outline common requirements for all customers, but also specific requirements for each particular customer. As stated earlier, all requirements should be stated in performance-based terms.
- Tracking actual savings across the entire contract to ensure the achievement of anticipated savings outlined in the business case analysis. This requires an upfront commitment (i.e., documented in the MOA) from all parties to maintain data starting from the date of contract execution through the end of each performance period. This data should track the contractor's performance in meeting cost, schedule, and quality requirements. The Center of Excellence should have responsibility for outlining how the data are collected and reported and for tracking and reporting all performance data based upon a consolidation of input from each customer site.
- Ensuring the benefits gained by awarding a single contract within a Center of Excellence outweigh the costs. The costs of establishing and maintaining a Center of Excellence should be compared annually to the actual savings achieved through the contracts awarded themselves and through the customers' not having to invest their own resources in awarding and maintaining individual contracts. Savings will be based upon actual costs achieved, as well as opportunity costs forgone.

Examples of Current Centers of Excellence

Various agencies currently offer acquisition services for other agencies in DoD evidencing government attempts to provide interagency support and provide lessons learned for a full transition to a DoD network of Centers of Excellence.

General Services Administration

The GSA awards "schedules," which are long-term contracts with commercial firms that can be utilized by any government agency. These schedules currently cover more than 11 million products and services. DoD is attempting to increase its use of GSA schedules in accordance with law and through formal agreements. H.R. 3222, signed Nov. 23, 2007, by President George W. Bush encourages DoD to increase its use of GSA acquisition services.

The director of defense procurement and acquisition policy in the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, and the GSA chief

acquisition officer have signed an MOA that outlines the way in which the organizations will work together to promote excellence in acquisition. The agreement notes steps such as ensuring statements of work or performance work statements are complete when used in connection with a contract or order issued by either DoD or by GSA in support of DoD; ensuring interagency agreements between DoD and GSA describe the work to be performed by GSA on behalf of DoD and any other applicable requirements;

AN EFFECTIVE CONTRACT ADMINISTRATOR REQUIRES SUFFICIENT KNOWLEDGE OF SUPPLIER CAPABILITIES AND PROCESSES TO HANDLE ISSUES AND PROVIDE EFFECTIVE OVERSIGHT.

ensuring price reasonableness determinations are completed on every contract or order either placed by DoD or by GSA on behalf of DoD; and ensuring acquisition practices across GSA are applied consistently with GSA policy. The agreement also covers critical areas such as providing effective contract oversight, the efficient management of joint contract funding, maintaining price competition, stating requirements in performance-based terms, providing training and education to customers, issuing timely progress reports, and maintaining open lines of communication between DoD and GSA leadership.

DoD and GSA have developed a more detailed action plan that defines their respective roles and responsibilities. The agreement also stipulates that senior leaders from both

entities will meet quarterly to evaluate and address the effectiveness of this plan and identify emerging interagency acquisition issues.
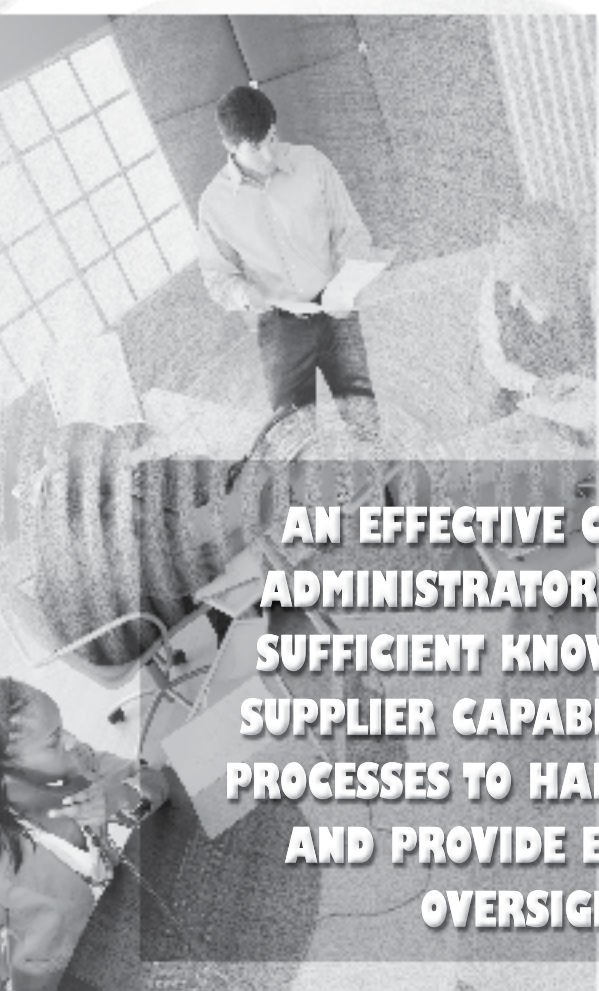
Defense Logistics Agency

The Defense Logistics Agency awards contracts for consumable and reparable items managed by DLA and the military services. DLA has established strategic alliances with several of DoD's largest suppliers, many of which are also original equipment manufacturers for many of the military's primary weapons systems. These strategic supplier alliances are established by charters that outline the overarching relationship of each supplier with each government entity that is a party to the alliance (i.e., DLA and the Army, Air Force, Navy, and/or the Defense Contract Management Agency). The charter serves as the official document of the alliance agreement, outlines general roles and responsibilities, and is signed by senior-level officials representing the supplier and each government partner.

All alliances are executed by long-term contracts that cover items managed by each government partner. DLA sponsors quarterly, semi-annual, and annual meetings with each supplier in order to address strategic issues impacting the alliances and tactical issues impacting customer support. DLA has established specific integrated supplier teams that award and monitor contracts, oversee the management of items covered by the contracts, and interact with military service partners on the alliance. DLA's alliances provide valuable lessons that may be used as a foundation for establishing Centers of Excellence.

The Way of the Future

Acquisition Centers of Excellence can provide valuable benefits to DoD in accomplishing its dynamic and evolving mission. Centers can also offer DoD streamlined acquisition processes as it seeks to operate in a more agile and efficient manner, while reducing personnel levels. In addition, they will provide efficiencies from joint collaborative acquisition efforts that can be used by the entire executive branch. While there are challenges in developing joint initiatives, if centers are structured and operated efficiently, the benefits realized outweigh the costs of overcoming those challenges.

Virtual Teaming: Welcome to the 21st Century

Jerome H. Collins ▪ *Robert Ernst* ▪ *Martin Smith*

Wake up, Buck Rogers! If you aren't on a virtual team now, it's likely that you will be in the future—at least if you keep working. Heck, you might even lead a virtual team at some point. Wouldn't that be fun! We bet you're awake now. If we haven't scared you off, please read on to learn what virtual teams mean for the future.

Virtual teaming can be defined as individuals who work together to accomplish a task or tasks and either rarely meet face-to-face or never meet. Instead, they use electronic means to communicate. Virtual teams aren't anything new. As far back as we, the authors, can remember, individuals collaborated across time and space to accomplish tasks. So why have virtual teams received so much attention in recent years? Well, for one reason, the Internet and other modes of communication—such as video teleconferencing, cell phones, and text messaging—have made this collaboration so much more effective and efficient. Instead of the good ol' days, when we passed letters to each other via snail mail and waited for responses, we can now e-mail one another and receive a response back within seconds. Likewise, in years gone by, we would call a person, and if he or she wasn't available, we left a message with the secretary. Now, we can call people on cell phones and track them down wherever they are.

Along that vein, it has made our jobs much more challenging. You see, back in the good ol' days, a response to our mailed letters or phone messages could take days, and that gave us some breathing room to work on other things. Now, a response can come within seconds, and we have to be prepared to work almost continuously on the effort or on multiple efforts at the same time.
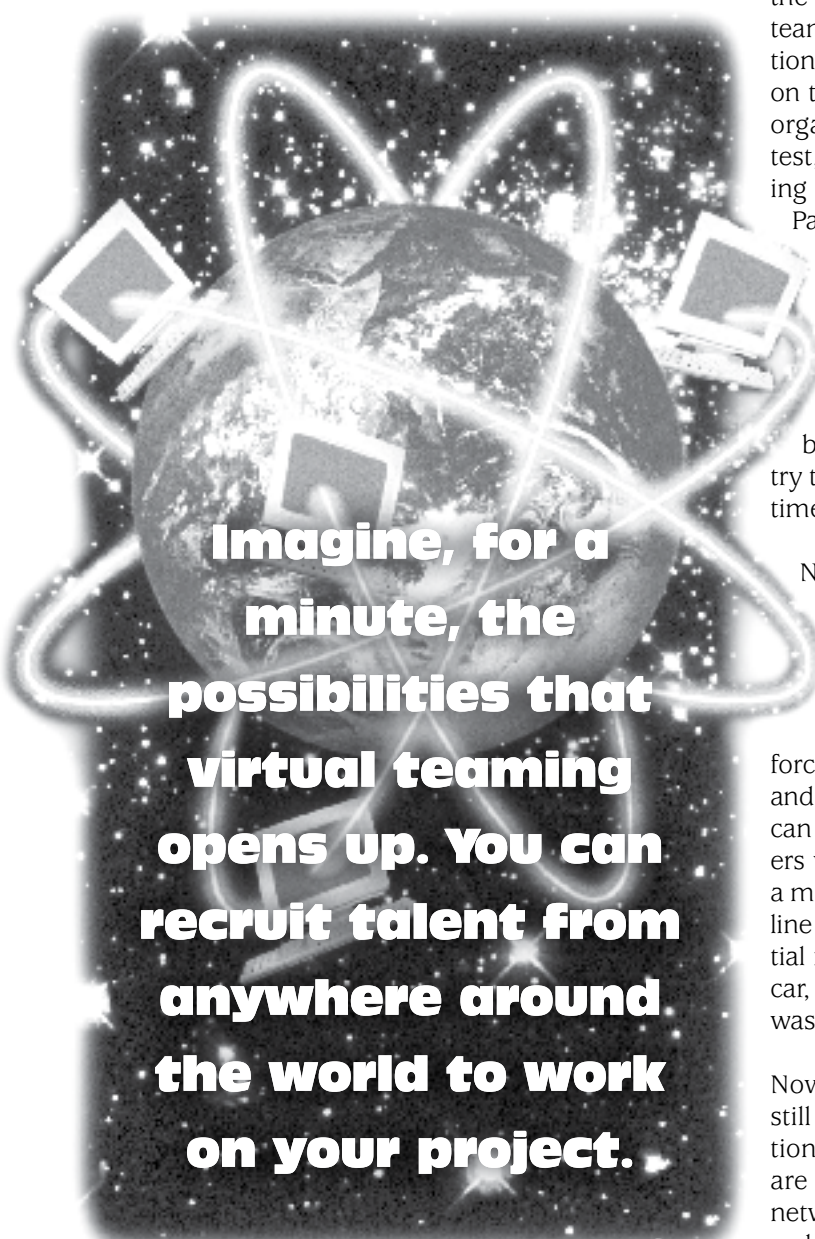
Another reason virtual teaming has received more attention recently is the type of work we do. Our work has evolved drastically over the years. Find a mirror close to you and look in it. What you will see looking back is a *knowledge worker*. What do we mean by that? Well, in the past, the majority of the U.S. population worked in manufacturing jobs. Today, a majority of the population works in service jobs. The main product that we—the Department of Defense's acquisition, tech-

> **Find a mirror close to you and look in it. What you will see looking back is a *knowledge worker*.**

Collins is a professor of acquisition management with the Defense Acquisition University. *Ernst* is a senior program manager with the Naval Air Systems Command. *Smith* is the lead technical authority at the Naval Air Systems Command for the F-35 aircraft electrical wiring system.

the F-35 aircraft program, which is made up of a large team of government and industry partners, not to mention multi-national government participants. One system on the aircraft—the electrical wiring system—has seven organizations involved in the research, development, test, evaluation, production, and installation of the wiring components. Those organizations have locations in Patuxent River, Md.; Fort Worth, Texas; Palmdale and El Segundo, Calif.; Joplin, Mo.; Wallingford, Conn.; Phoenix, Ariz.; Hoogerheide, the Netherlands; and Samlesbury, United Kingdom.

Imagine, if you will, overcoming the distance barrier as well as the time zone changes and language barriers that exist on a team this diverse. For instance, try to plan a meeting at 2 p.m. Fort Worth time when the time in the Netherlands is 9 p.m.

Never fear, though. Virtual teaming isn't as bad as it may seem. It truly does have its challenges, but the benefits far outweigh the downside.

The Upside to Virtual Teams

If you agree with us that we in the DoD AT&L workforce are knowledge workers, then let's talk about how and where we do this work. Knowledge work by its nature can be performed anywhere. In the good ol' days, workers who manufactured products had to be co-located at a manufacturing facility in order to work on a production line to complete a product. This was all done in a sequential fashion, with one worker putting the bumper on the car, the next putting the wheels, and so on until the car was complete.

Now fast forward to the present. The production line still exists but in more of a virtual sense. Communication channels are the production line now. All workers are connected to each other much like the nodes in a network. Therefore, knowledge workers don't need to be co-located with each other in order for a task to be accomplished. They just need to be able to communicate across space. One of the tremendous benefits of this new freedom is that talented people can work together without being face-to-face. For instance, if an integrated product team is formed to work on a new program, human talent can be pulled from virtually anywhere on the globe. You could have a program manager leading the team from Patuxent River; an engineer supporting the team from Jacksonville, Fla.; a logistician in San Diego, Calif.; and a prime contractor located in Dallas, Texas, all collaborating on the project.

Imagine, for a minute, the possibilities this opens up. You can recruit talent from anywhere around the world to work on your project. Virtual teaming is going to be essential to filling the gap in talent DoD will face in the near future. As GovExec.com reported in January 2007, 60

Imagine, for a minute, the possibilities that virtual teaming opens up. You can recruit talent from anywhere around the world to work on your project.

nology, and logistics workforce—produce is knowledge. We share knowledge with our co-workers to develop superior capabilities for the warfighter. Engineers collaborate with other engineers in researching and developing new systems. Logisticians collaborate with engineers to make those systems sustainable. Contracting personnel work with both engineers and logisticians to accomplish all this on government contracts. Providing a new system for the warfighter involves the sharing of knowledge between these functional areas. So, repeat after us: "I am a knowledge worker."

It Can Get a Little Crazy

Sorry, but there's no going back now. Virtual teams are here to stay, and we have to be prepared for the challenges we face in being a part of them. Take, for example,

percent of all federal employees and 90 percent of senior executives will become eligible for retirement in the next decade. This will lead to a competency drain that will need to be filled using creative methods like virtual teaming.

Here's a hypothetical example of how virtual teaming can fill gaps in the workforce. Say you are a new leader of a team. You have several individuals on the team who are experts in their field, but one individual stands above the rest. We'll call him John. John has stated to you that he will be retiring in the next two months and moving to be closer to his children and grandchildren. He would be interested in working after retirement, but only part-time and only from his new location. You know that it will take at least two months to fill his position, and there won't be any opportunity for John to pass his experience on to the new person. What will you do?

Some leaders would bid John a gracious goodbye, never to tap into his wealth of knowledge again. Others, though, will see the benefit of having someone like John as part of their virtual team and will work to keep him active in retirement. There's no reason that John couldn't work from his new location as long as he has the tools necessary to communicate with his team. Keeping John active will serve at least two purposes. First, you will retain John's talent for another day (or another month or year), and second, you allow a way for John to train the new person on the requirements of the position.

Making it Work

With all this being said, virtual teams do have their challenges.

The first challenge most virtual teams will face is cultural. The thought still prevails in some organizations that we all have to be together in the same location (or at least in close proximity) in order to work together effectively. This carryover from the production era of days gone by leads to organizations applying 20th century management techniques to 21st century problems. Instead of investing heavily in better ways of communicating across space, we spend heavily on building new office space, thereby centralizing our talent pool when we should be decentralizing it. Talent should reside where the work is primarily located, not where the headquarters is located. If there is no primary location for the work, then talent should reside where it makes the most sense from a business standpoint. Leadership for the future should be creative in how they manage the talent pool they have, according to the work that needs to be accomplished. Our focus needs to shift from building offices to providing fast and effective means of communicating.

Along that same line of thinking, here's another hypothetical example for you. You're a new team leader and one of your team members—we'll call her Jane—travels from Patuxent River to Fort Worth on a regular basis to perform physical configuration audits on a production line. This travel occurs so frequently that it's been suggested that someone new be hired at Fort Worth to perform the audits. What will you do? Well, some leaders would be inclined to hire an individual at Fort Worth and, since Jane will no longer be required to perform the audits, find something else on the project on which Jane can work. This would mean that two people would have to be trained—the new person at Fort Worth as well as Jane in her new position. However, others will explore with Jane the possibility of relocating her to where the work is performed. You see, our teams should be flexible enough to allow us to move individuals around where they are needed, when they are needed. This is assuming, of course, they are willing to move.

This leads us into our next point. Leadership of individuals on virtual teams is a relatively new concept facing most team leaders. There are two aspects to leading any team successfully: leading the individuals on the team and leading the group as a whole. In traditional teams, individuals would be co-located with their leader, which would mean that the leader could provide "care and feeding" on a regular basis. The leader would simply walk out of his or her office and observe the progress of the team members. The leader would see what problems the team was having and what decisions they were prepared to make. However, in a virtual team in which people may never have face-to-face contact with the leader, it's left more for team members to care and feed for themselves. Team members must determine what tasks need to be accomplished, determine deadlines for accomplishing those tasks, effectively communicate with those involved in helping them accomplish the tasks, and discipline themselves in order to accomplish the tasks. The team leader moves from being a crutch upon which the member can lean (as in a traditional team) to an enabler for the team member to use to accomplish their tasks (as in a virtual team).

As you can tell, a virtual team member must have self-leadership qualities in order to be successful. Not all individuals are self-leaders. Therefore, care must be taken to determine who will be successful on a virtual team when selecting members. An individual who will perform well on virtual teams can be described as self-motivated, self-disciplined, a good communicator, and results-oriented.

Likewise, leaders of virtual teams should be selected for their position based upon certain criteria. Outside of their technical competencies, they should be able to demonstrate they can effectively communicate with and lead individuals from a distance, with little or no face-to-face interaction. As previously discussed, leaders are enablers on a virtual team, not crutches. Training should be provided to individuals early in their careers on effectively leading virtual teams.

We've pointed out that collaboration in virtual teams is mediated through electronic communication channels. Although the means for communicating exist, that doesn't mean team members are going to use them, or if they do use them, they may not use them effectively. So the last challenge of virtual teaming is getting people on the team to communicate effectively. What does communication do for the team? Well, besides sharing knowledge with others, communication builds trust between team members. When team members trust each other, they are more likely to share knowledge and not hold onto it for fear of losing their power or control over a situation

Since trust is essential to good communication, how does trust in a team start? In the past, individuals who sat beside each other built trust by talking around the water cooler or going out to lunch together. On a virtual team, individuals don't see each other around the water cooler and can't easily have lunch together. So individuals have to build trust through electronic channels. This can be difficult. When communicating over e-mail or the phone, certain visual cues about what an individual is communicating are lost, and information can be misinterpreted and trust can be broken.

Effective use of communication channels in virtual teams is essential. Therefore, training should be performed on the use of these channels, and norms should be established by the team leader on when and how they will be used. With this said, it may still be necessary for a team leader to bring his or her team together at the beginning of the program and/or periodically throughout the program in order to get the face time between participants on the team. This can aid in building cohesiveness on the team at the beginning of the program or to help in dealing with conflict throughout the program.

Ready to Tackle Virtual Teaming?

Although this has been a short discussion of what virtual teams are and the benefits and challenges of leading virtual teams, hopefully it has given you some ideas to contemplate if you are a leader of a virtual team. Since the use of virtual teams will continue to grow into the future, it would stand to reason that every leader should contemplate the ramifications of organizing and leading these teams. Remember, virtual teaming does have the benefits of allowing you as a team leader to draw from a larger talent pool, but unless you are skilled in managing that talent pool from a distance, the benefits may never be fully realized.

"Anyway, Dee Hock explained a bunch of this stuff in his book *The Birth of the Chaordic Age*. Mr. Hock knows whereof he speaks; he's the guy who founded VISA, you know. Smart fellow.

"You haven't heard the word 'chaord' before? That's because Mr. Hock invented it. He needed a word to describe an entity that is a mixture of chaos and order, and there wasn't one, so he took it upon himself to make it. He's really onto something. I think we're all chaords, whether we know it or not. Heck, we're chaords whether we *like* it or not—and trust me, turkeys don't like it. They pretend the world is orderly and predictable, and they pretend chaos and order are an either/or proposition. They pretend they're in control. But in reality, it's like Gnarles Barkley sings"—here he threw his head back and, in a strong falsetto, sang, "You really think you're in control, but I think you're craaaa-a-a-zy."

He resumed his normal speaking voice, "And for what it's worth, crazy's not such a bad thing, if it's the right kind of crazy." He rose to his feet.

"So as you manage your programs, you'll have plenty of turkeys offering to drive out the chaos or expecting you to do so. They try to put bad tools in yours hands—tools designed to increase certainty and predictability, to slash risk down to zero, and other nonsense. Don't you fall for it. Don't trust those tools much. Some will be helpful in some situations, but use them with care, so they don't jump up and bite your biscuits."

For a guy from ancient Greece, he certainly knew some colorful American idioms.

"This 21st century is a strange, dynamic place, full of unpredictable threats and events. And no matter how many regs the turkeys quote, nothing's going to change that. So open your eyes to the chaords around you—the people and organizations, the situations and needs; they're all chaordic. So are you. The first step is to recognize that you're living in Chaordia. Once you grasp that, stuff your pockets with as many heuristics as you can find, and hone up your turkey-farming skills.

"But enough about all this. Let's go buy some ice cream. Your treat. I wonder if we can find some Ben & Jerry's around here. I love that Cherry Garcia."

And so we did.

The authors welcome comments and questions, which can be e-mailed to jerome.collins@dau.mil, robert.ernst@navy.mil, and martin.smith@jsf.mil.

The author welcomes comments and questions and can be contacted at daniel.ward@afit.edu.

Project Manager and Program Manager

What's the Difference?

Jeffrey Peisach ▪ Timothy S. Kroecker

Project manager or program manager—what's the difference between the roles? Many organizations are asking themselves this question, and the answer often varies significantly, even within the same organization. In some circumstances, the titles denote a difference in seniority or compensation. In others, it implies a significant difference in scope of responsibilities and organizational impact. And sometimes, there is no meaningful difference at all outside of traditional naming conventions within an organization.

Why does identifying the differences between the roles matter? Because it is important to be able to identify unique responsibilities and important characteristics of any job. Clear role definitions are important in setting the appropriate expectations for individuals in these or any roles. People need to know the definition of their roles and what their duties involve in order to perform their jobs successfully. They need to know how to move toward the next level in their careers. If an organization does not have a clear view of these expectations, there is no way to communicate them to its employees. An employee without clear expectations lacks direction, and that makes it very difficult for organizations to train and develop employees to the competencies that fuel high performance.

Why is it particularly important to understand the differences between these specific roles? Program manager is a role that many project managers aspire to; it is like an über-project manager, often handling the most strategic and important programs for an organization. By outlining the similarities and differences between the roles, we hope to enable individuals to better understand and plan their own careers or the careers of their team members.

For the purposes of this article, these similarities and differences are loosely organized by job focus, challenges, and key capabilities.

Peisach, a consultant at Cambria Consulting, has designed and implemented talent development solutions for project and program manager roles in numerous client organizations. Kroecker, a partner at Cambria Consulting, has led the development of an online program manager assessment center and a project manager 360-degree feedback process.

> **Project manager or program manager—what's the difference between the roles?**
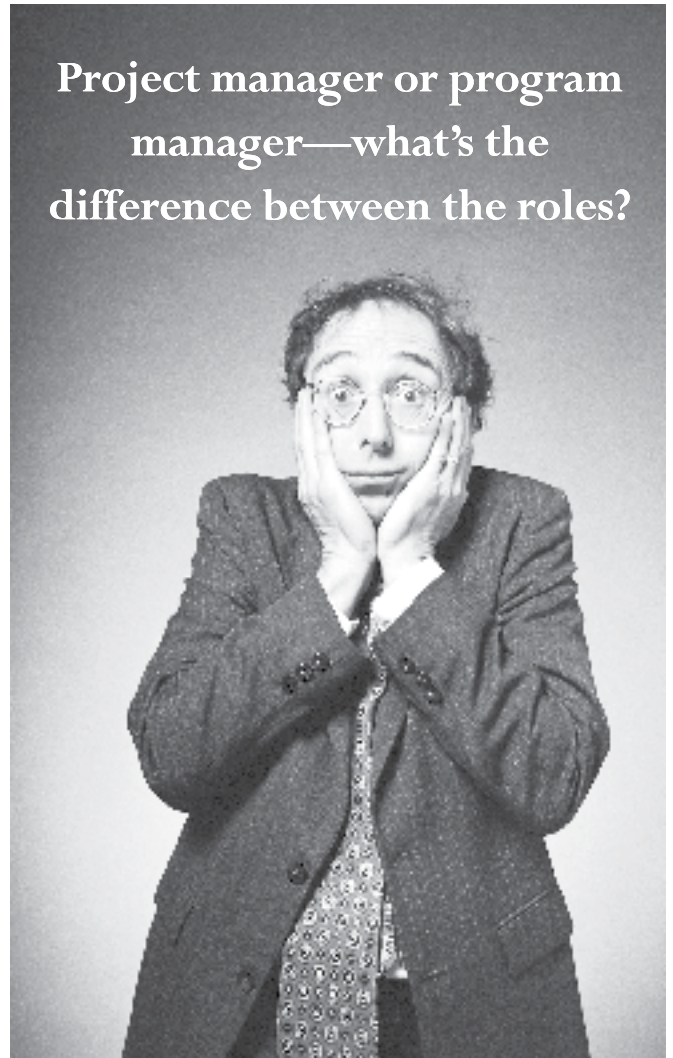
Differences in Job Focus

The job focus of the project manager is both narrower and deeper than that of the program manager. Project managers are responsible for the project, the project team, and the outcomes the team is working on. Program managers have a greater breadth of responsibilities, oversee multiple project teams, and are held accountable for the overall outcome of the program. There may be numerous projects that feed into a program, and the program manager

Differences in the Job Focus of Project and Program Managers

PROJECT MANAGER		PROGRAM MANAGER
Narrow Span of Control		Wide Span of Control
Depth	vs.	Breadth
Micro		Macro
Project Management		Portfolio Management
Execution & Implementation		Tools, Systems & Processes

must monitor them all and understand how each contributes to the success of the program.

Project managers are responsible for a deep level of technical knowledge about their projects. Often, the success of their projects depends upon their attention to technical details. Program managers may have the same level of technical knowledge, but they are responsible for understanding a wider variety of issues and appreciating the most salient of those issues and the impact they may have on other projects or the program as a whole. In order to be successful in the role, a program manager must often resist the instinct to dive deep into technical details and instead strive to see the projects from a more holistic perspective. While a project manager is focused on completing deliverables and hitting milestones on time, a program manager needs to know how slipping on one deadline impacts other projects and milestones as well as what risks that creates for the program.

Project managers are responsible for the execution and implementation of processes and the use of standard or-

ganizational systems and tools. The role of the program manager is to work with the organization to establish what these standards should be and to oversee the development of the tools and systems to effectively and efficiently manage projects.

Differences in Job Challenges

Given the differences in job responsibilities and focus, it stands to reason that the challenges project and program managers face in the accomplishment of their jobs are also different.

Project managers face difficulties adhering to processes and using systems that are designed to meet organizational needs. For legitimate reasons, these processes and systems are often developed to support a variety of projects and meet the needs of the business, not the needs of any specific individual. It is the project manager's challenge to interpret generic or overarching guidelines,

Job Challenges Faced by Project and Program Managers

PROJECT MANAGER		PROGRAM MANAGER
Process Compliance		Process Development
Cross-Functional		Cross-Business/Enterprise
Time Management and People Coordination	vs.	Orchestration and People Management
Project Completion on Time, on Budget, and to Expectations		Return-on-Investment and Value Delivery
Conflicting Project Requirements		Competing Business Strategies and Objectives

By outlining the similarities and differences between the roles, we hope to enable individuals to better understand and plan their own careers or the careers of their team members.
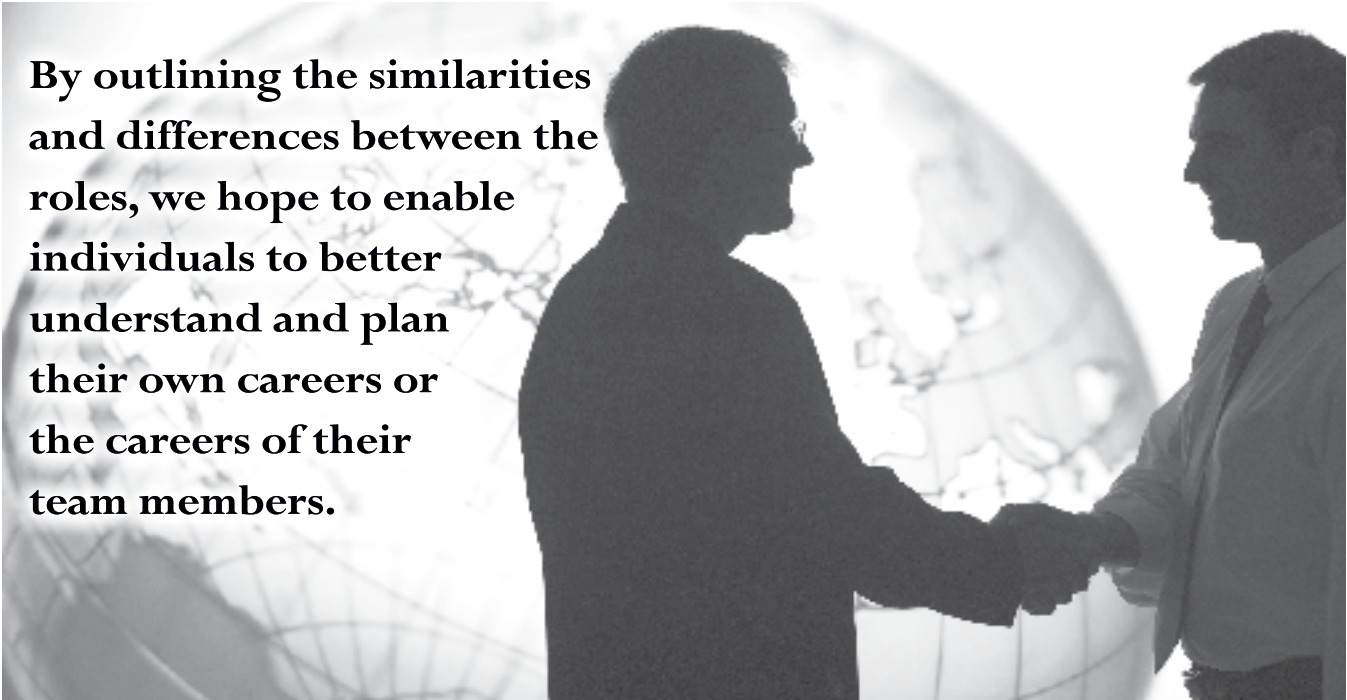
> **Recognizing program and project manager differences can help organizations enhance the impact of their selection processes, training and development efforts, and performance management systems.**

processes, and systems in order to leverage those items effectively in a specific project. For the program manager, the challenge is not only to develop systems and tools that can be reasonably applied to a variety of projects, but also to ensure the disciplined application of standard practices and procedures across linked projects that all relate to one organizational program. These challenges involve understanding the perspectives of various groups and meeting diverse and sometimes contradictory needs at a level beyond that of a project manager.

Project managers tend to work cross-functionally, whereas program managers are more likely to work with stakeholders across the entire organization. They both face challenges in spanning boundaries and must work to meet the needs of multiple constituents, but the magnitude is greater for the program manager. Often, project managers oversee projects that serve several internal and external customers. For example, if the project is the implementation of software to track human resource transactions, the project manager faces the challenge of working with information technology representatives, human resources employees, and perhaps accounting and finance specialists. Following along the same lines, the program manager may be charged with the implementation of an enter-

prise-wide system to track employees and all information related to them from hire to retirement. The program manager is then dealing with customers in other functions as well, often across several business units. In this scenario, the project manager is most likely to interact with subject matter experts, line managers, and other project managers, while the program manager is influencing those at higher leadership levels.

Benchmark Analysis of Competencies

Competencies are defined as the skills, attributes, and capabilities that characterize high performers. A competency model is the collection of competencies designated to a specific job role or organizational level. We performed studies for a variety of organizations to help them determine what the key competencies are for individuals in both project manager and program manager positions. Competency models developed in partnership with our clients were examined to determine the core capabilities needed to be successful in each of these roles as well as the important differences between them.

Our benchmark analysis incorporated competencies for 16 distinct project and program manager roles across 13 organizations specializing in technology, manufacturing, pharmaceuticals, retail, financial services, aerospace, information technology services, and utilities, as well as from the federal government.

In order to suitably compare the most critical capabilities across different roles and organizations, we created a common language of concepts intended to cover a number of different competency names and titles. For example, *Focus on the Customer* in one competency model and *Builds Strong Customer Relationships* in another both fall under the umbrella of *Customer Focus* in our list.

It is important to note that some benchmark competency models also have a greater amount of subtlety and detail than others. In other words, some client models have several competencies that fall under the same concept while others only have one. For example, one project manager competency model includes both *Manage Complex Activities* and *Time Management*. For the sake of the analysis, both of these competencies are counted as one vote for the concept *Planning and Organizing*.

There are important parallels across the roles. For example, *Results/Goal Orientation* is important to both for obvious reasons. *Team Building/Management* is also found on both lists. People in each job must manage their teams—generally in an informal capacity—to set expectations and ensure resources are being effectively executed.

Influence is also an important competency for both roles, though it may be leveraged in different ways. Project man-
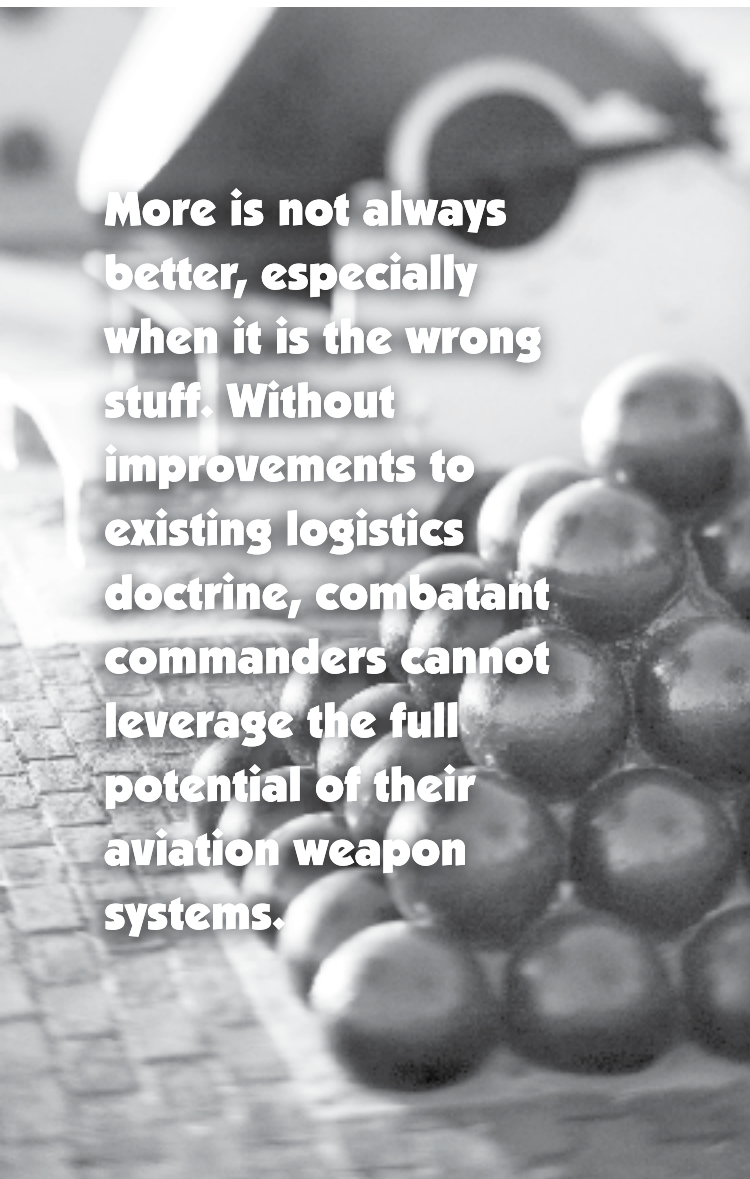
Top Competencies Per Role

PROJECT MANAGER	PROGRAM MANAGER
Analytical Thinking	*Systematic Thinking*
Communication Skills	*Interpersonal Astuteness*
Business Orientation	*Results/Goal Orientation*
Results/Goal Orientation	*Influence*
Influence	*Team Building/Management*
Team Building/Management	*Strategic Thinking*
Customer Focus	*Making Tough Decisions*

Pushing a Pull System

Transforming Marine Aviation Logistics

Douglas S. Steward

More is not always better, especially when it is the wrong stuff. Without improvements to existing logistics doctrine, combatant commanders cannot leverage the full potential of their aviation weapon systems.

by air, sea, or land. More is not always better, especially when it is the wrong stuff. Without improvements to existing logistics doctrine, combatant commanders cannot leverage the full potential of their aviation weapon systems. Additionally, with a greater presence of unmanned weapon systems, it makes sense that supporting logistics systems also place fewer personnel in harm's way.

The Marine Aviation Logistics Support Program is transforming to align with core doctrine changes and concepts such as distributed and prolonged operations, expeditionary maneuver warfare, and sea basing. The goal of the new design, MALSP II, is to provide logistics support to deployed and non-deployed core capable units at higher levels of performance while also decreasing the infrastructure and resource inventory. In January 2007, the Aviation Logistics Support Branch of Headquarters, Marine Corps, chartered the Aviation Logistics Transition Task Force and, in conjunction with Naval Air Systems Command, stood up the MALSP II Project Office to manage MALSP II improvements and program changes. Together, these activities form an architecture that identifies warfighting processes and relationships, relates systems to operational requirements, and describes standards and protocols. The architecture assists warfighters and program managers in communicating operational concepts to system developers, and provides an analytic basis for discussions and decisions.

The "As-Is" Design

The current MALSP design is a "push" system that relies on subjective forecasts and anecdotal evidence to support its forces. This just-in-case approach has resulted in the following logistics support characteristics:
- Days-of-usage depth
- Fixed-allowanced resource packages
- Heavy footprint
- Reactive system.

The Berlin Wall came down in 1989, and despite changes in how America fights wars, logisticians and planners continue to push forward the heavy footprint of the Cold War era. In a modern battlespace, combatant commanders want logistics support that is agile, flexible, proactive, and able to surge. This support must also be capable of rapid deployment

A graphic description of "as-is" designs exists in a Dec. 18, 2003, General Accounting Office report to Congress in which the GAO states that the "Department of Defense did not have adequate visibility over materiel that was transported to, within, and from the Operation Iraqi Freedom theater of operations" and that "distribution capability in

Steward retired from the Marine Corps in 2006 after serving in various aviation logistics functions and is currently employed as the MALSP II deputy project manager.

theater was insufficient for handling the amount of materiel deployed for the operation." The report concluded that "lessons learned from Operation Desert Shield and Storm and other military operations have not been effectively applied." The report also contains several disturbing photographs of problematic distribution depots and bottlenecked supply hubs.

The "To-Be" Design

MALSP II employs an evolutionary strategy to bridge capability gaps that exist between the as-is and to-be designs. At the foundation of this bridge to the future is a force-centric logistics chain built on enterprise AIRSpeed

The new design, MALSP II, is a "pull" system tied to market demand. The design includes improved support packages and a system of buffers that cushion against demand spikes and variability. Support packages are deployed to provide support until sustainable buffers are established. The new packages will be aircraft/unit/mission-scalable and highly mobile. Buffers are sized around times to reliably replenish and around demand patterns, and buffers are placed where they best exploit the system's constraint. The overall design is centered on development and maintenance of buffers that are co-located with the customer. In addition, the packages will provide for a seamless transition to buffers, and buffers will allow for
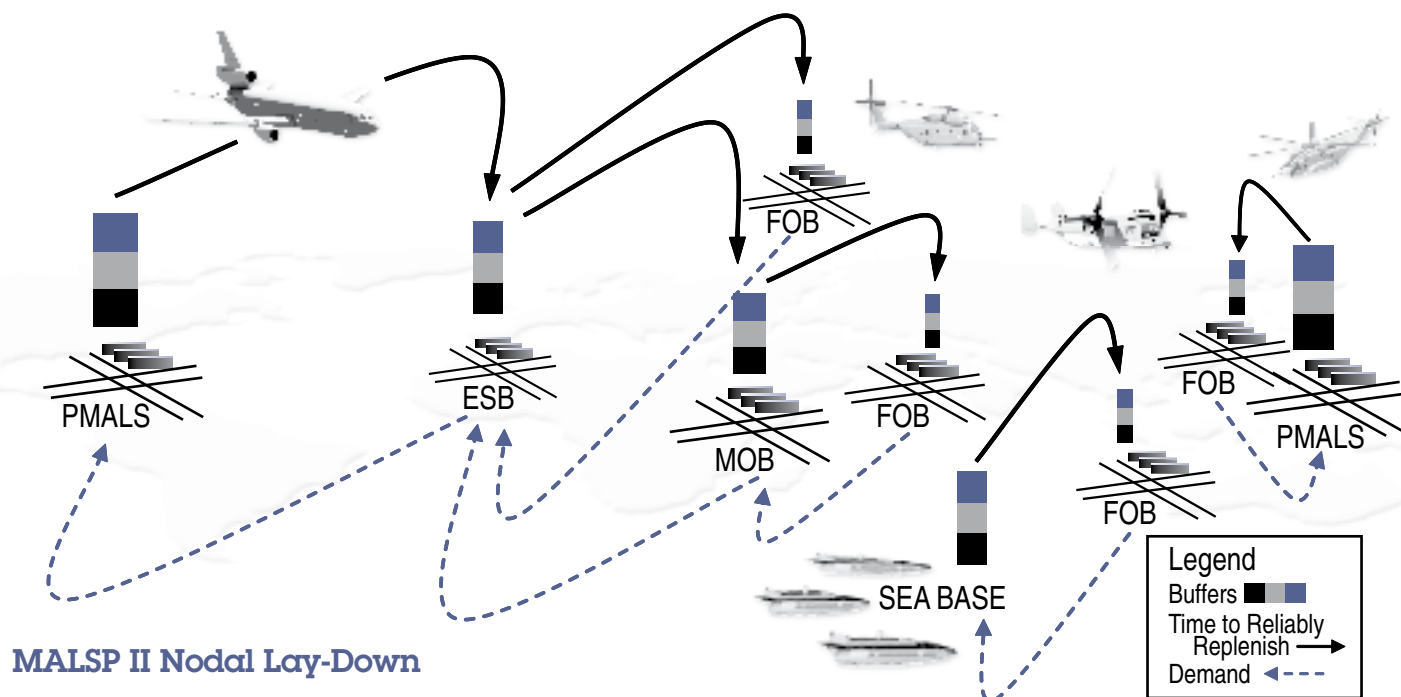
MALSP II Nodal Lay-Down

(Theory of Constraints, Lean, and Six Sigma) methodologies. AIRSpeed is the Navy and Marine Corps' terminology for continuous process improvement.

A logistics chain differs from a traditional supply chain in that it includes intermediate-level "on-aircraft" maintenance and support functions. Bridging capability gaps also ensures that a logistics chain is also:
- Horizontally and vertically integrated from end-to-end
- Focused on material management, maintenance, transportation, information systems, and planning
- Enabled by continuous process improvement, technology insertion, business process re-engineering, and weapons systems current readiness
- Integrated with the Defense Transportation System, Global Information Grid, common operating picture, and acquisition reform
- Compatible with autonomic logistics, sense and respond logistics, and associated technologies.

concurrent reconstitution of packages during the transition phase. This reconstitution capability will allow for rapid redeployment/reassignment of packages if required. Buffers in the logistics chain are assigned to nodes, each with its own value stream, and arranged in a system called a "nodal lay-down," as illustrated in the MALSP II Nodal Lay-Down figure. In a nodal lay-down, each upstream "parent" node buffers a downstream "child" node as demands are placed on the system. For example, when a part is issued to the flight line, the resulting transaction creates a signal that triggers a series of replenishments downstream until each hole at each node is filled. Assuming the part is repairable, a reverse demand for the retrograde will occur simultaneously. In certain cases, parts bypass nodes as they travel up and down the logistics chain. From factory to fighting hole, nodes in the lay-down are:

- Parent Marine Aviation Logistics Squadron (PMALS). The PMALS contains supply and repair capability buf-

fers and is directly linked to wholesale supply, depots, and original equipment manufacturers. Most PMALS are located in the continental United States. The PMALS is responsible for the logistics support of all downstream child nodes. In some operational scenarios, it is possible to have more than one PMALS supporting the same nodal stream.

- **En-route Support Base (ESB).** The ESB is a supply-buffered distribution hub that links the PMALS with supported downstream main and forward operating bases. The ESB takes full advantage of commercial air carriers and existing hubs to exploit the system's constraint. ESBs have no local demand and can be located in the continental United States or overseas.

- **Main Operating Base (MOB).** The MOB hosts a supply buffer that supports local demand as well as buffers at forward operating bases and forward armament and refueling points. MOBs also support the last tactical mile of transportation.

- **Forward Operating Base (FOB).** The FOB is at the tip of the bayonet and may be supported via MOB or directly from an ESB. The FOB hosts a supply buffer that supports local demand.

From the ESB forward, it may become necessary to provide repair capability; however, in an effort to minimize forward footprint, intermediate-level repair should be limited to the PMALS whenever and wherever possible. In addition, some lay-down scenarios involve sea bases consisting of Maritime Prepositioning Force squadrons and roll-on/roll-off cargo container ships and their future replacements; however, specific roles of these sea nodes in a MALSP II design wait to be defined.

MALSP II is enabled by an enterprise technology architecture that automates routine decision making, analysis, and business processes in the logistics chain. This technology will provide accurate and timely material information that is horizontally and vertically transparent, and visibility of static and in-transit material from the point of manufacture/repair to the point of consumption, to include retrograde disposition. The Expeditionary Pack-Up Kit is one tool being developed specifically for the new logistics chain. EPUK will give each buffer manager the ability to scan parts as they are received, sent, and stowed so that the resulting transactions can be transmitted back to the PMALS in near-real time, thereby removing the administration burden from the battlefield. Other technology solutions in development or being investigated are:

- **An expeditionary buffer management tool**—provides command and control of the logistics chain by interfacing with EPUK and identifying disruptions in

the flow of materiel so that the appropriate corrective action can be applied.

- **Radio Frequency Identification**—provides a means to track in-transit containers.

- **Mesh networking**—provides individual nodes with total asset visibility and allows for quick gain or transfer of packages and buffer inventories.

- **Logistics planning/decision tools**—assist in buffer sizing/shaping and node selection and placement based on a given operational scenario.

This blend of technology will ultimately deliver a logistics chain that supports multiple operation types and responds rapidly to changes in demand.

Beyond Bumper Stickers and Buzzwords

Fleet-wide acceptance of MALSP II concepts will require sweeping changes in organizational culture and behavior. AIRSpeed training has and will continue to shift the paradigm.

It is difficult to convince organizations that their current methods are flawed. After all, didn't the current system work in the past? The harsh reality is that what worked in the past relied on workarounds, expediting, and other heroics that exist in a failed system. AIRSpeed and MALSP II are not "change for the sake of change;" their concepts are based on hard science and future operational plans and concepts of operation. In addition to AIRSpeed training, an aggressive campaign has begun to educate Marine aviation logisticians in MALSP II doctrine.

In 2005, a multi-phased pilot was launched to prove MALSP II concepts. Between February and August 2006, the pilot identified 273 consumable NIINs [*national item identification numbers*] that degraded aircraft readiness at a FOB in Iraq. After applying AIRSpeed methodologies to this same population of NIINs, there was only *one* mission-degrading requisition not filled in Iraq between February and August 2007. The pilot will be used to develop and accomplish the following MALSP II initial operational capability (IOC) mission-essential tasks: developing logistics chains and selecting node locations; developing buffers in a time domain; deploying maintenance capability in a logistics chain (when necessary); moving materiel and requisitions in a logistics chain; sustainment and continuous process improvement; determining a basic initial package for deployment; and redeployment planning that will allow organizations to align their resources and policies to MALSP II.

These mission-essential tasks are linked to measures of effectiveness and suitability and critical technical parameters. A near-term pilot task includes developing repair-

By Dan Ward, Chris Quaid, Gabe Mounce, and Jim Elmore

of reorganization/restructuring and consolidation requirements resulting from the impact of IOC. Factors such as available project resources and alignment with the Marine Corps Expeditionary Force Development System also played a role in the FOC selection process. Some FOC mission-essential tasks identified in the strategic roadmap are:

- Operating from a sea base, e.g., Maritime Prepositioning Force and Maritime Prepositioning Force (Future)
- Aligning with future operational concepts
- Globally managing MALSP elements in buffers/time domain (e.g., people, parts, support equipment, mobile facilities, and maintenance capabilities)
- Achieving a common logistics operating picture
- Aligning resources and changing policies.

Realizing the MALSP II dream will ultimately require a rigorous effort to develop and implement new business rules, transformation methodologies, measures of effectiveness, and technology enablers with an overall emphasis on designing for increased performance and reduced footprint.

Tomorrow's Fight Today
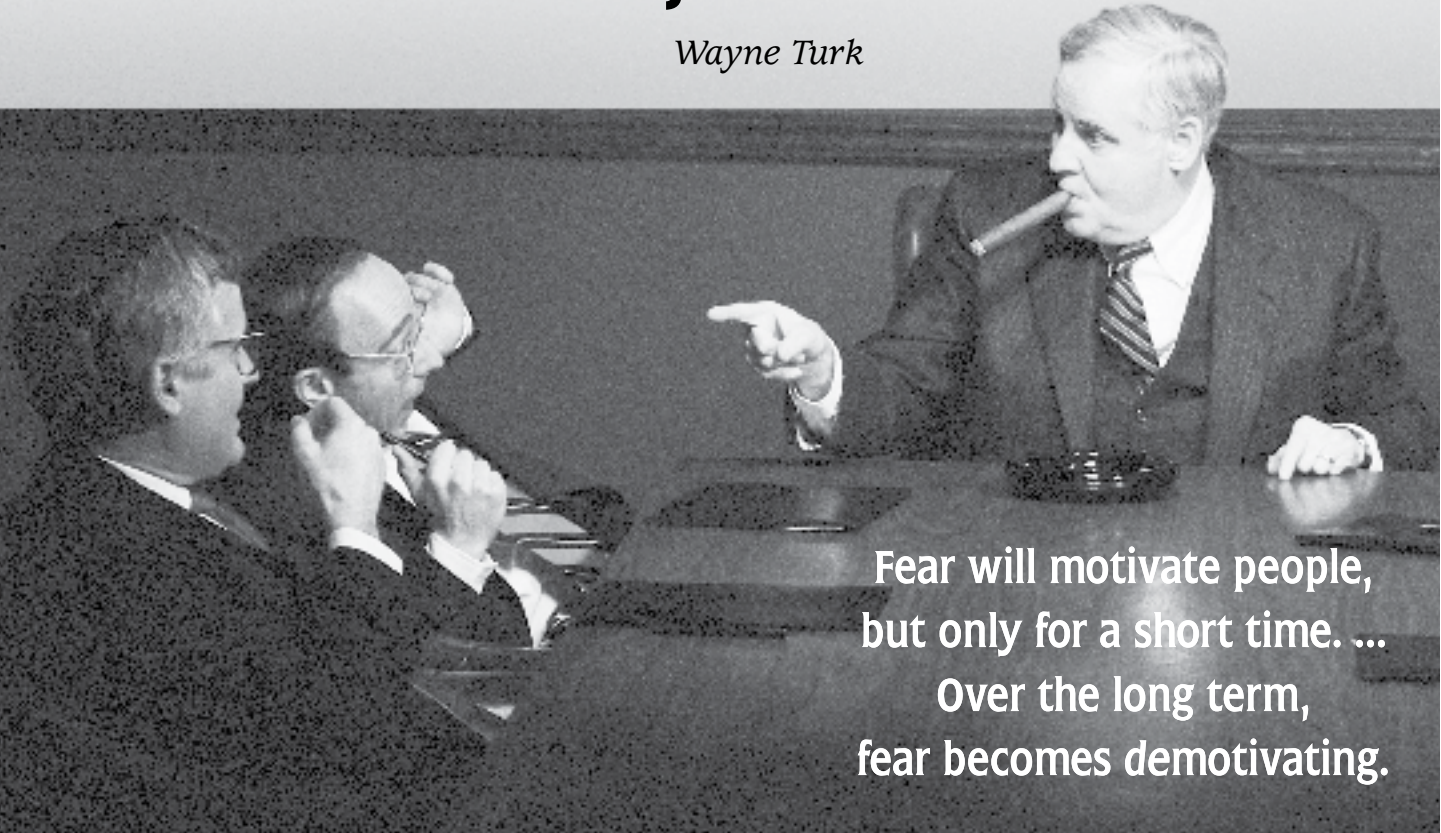
In keeping with continuous process improvement and an evolutionary strategy, MALSP II development will include planning phases for the third release of MALSP. By proactively adding the "hooks" that accommodate emerging logistics capabilities and technologies, MALSP II will be poised for a seamless transition to a follow-on design. The third design is likely to reflect an increased emphasis on distributive and adaptive operations in a net-centric warfare environment. This kind of system dynamically positions inventory and uses transportation flexibility and robust technology to handle uncertainty. Autonomic logistics and sense-and-respond technologies will lend themselves well to this design by prepositioning the right parts, people and equipment at the right time. This proactive system may not totally eliminate the need for buffers; however, any remaining buffers are likely to be smaller in both depth and range. Ultimately, by replacing mass with velocity in this manner, we will improve overall logistics effectiveness and aviation weapon systems performance.

able buffering procedures by integrating a FOB in the Horn of Africa, leveraging on upcoming exercises with modeling and simulation, and acquiring/fielding buffer management capability. Proving value through use of the pilot in this manner is critical to the overall development and buy-in of MALSP II concepts.

The Aviation Logistics Transition Task Force is the umbrella under which stakeholders, subject matter experts, planners, and others as required are organized to serve in working groups and integrated product teams to identify capability gaps and implement MALSP II concepts. Reviews are conducted at defined intervals throughout the development and implementation process to identify needed revisions and to allow for timely improvements in these strategies to meet performance requirements. A MALSP II strategic roadmap was developed using a project network to identify a goal, objectives, tasks, deliverables, and success criteria. While IOC is framed by the same seven mission-essential tasks assigned to the pilot, the full operational capability portion of MALSP II consists largely

Motivate Your People for Project Success

Wayne Turk

Fear will motivate people, but only for a short time. ... Over the long term, fear becomes *de*motivating.

L et's start with a caveat. There are books written on motivation. Throw in about a ton of articles and an equal—if not greater—weight of anecdotal "evidence." Mix in who-knows-how-many studies and you come up with a lot of information on motivation. And (can you believe this?) much of the information is contradictory! I say this just to let you know that what follows is not necessarily the only thought on the subject. It is opinion, and in this article, you are stuck with my opinion (backed up by the opinions of others, of course). But if you do some research, you can find different ideas from those presented here.

Now for two myths:
1. Fear is a great motivator.
2. Money is a great motivator.

Oh yes, fear will motivate people, but only for a short time. When the program manager yells at his or her people, it

might light a spark, but it doesn't last. In fact, over the long term, fear becomes *de*motivating. People get used to it or tired of it, and they turn it off. If they get demotivated enough, they begin looking for a different job.

Money can motivate too, but it is not high on the list of motivating factors. The interpretation is that if an employee makes enough money to meet all basic needs, more money matters less than other factors. White-collar workers who make a reasonable salary to meet their basic needs (housing, food, transportation, etc.) are more directly motivated (most studies show) by other things—time off, availability of telecommuting, recognition, working conditions, etc.

It's different on the low end of the scale. Low salaries, such as those of many blue-collar workers or service industry employees, leave workers in a tight money situation where they perceive that more money will help them meet their basic needs. Then money often becomes a motivator.

There are always exceptions. Some people out there use money as a way to keep score. They are the highly com-

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petitive types who psychologically measure success through dollars.

Motivation Theories

Now that we have debunked a couple of myths, we should look at what some of the theorists have to say about motivation. As in many of my articles, we will look at theory and then the practical, but don't skip the theory. The following are very brief summaries of a few of the more famous theories—a quick review of some of your college classes, although I am sure you were listening while you were in class. But if you missed it in college, consider it an introduction.

Theory X

This is an old theory going back to at least Sigmund Freud. It says that people are lazy, hate work, avoid responsibility, have no initiative, and have no ambition. To get them to work, they must be coerced, punished, intimidated, or rewarded in some way. This is the mostly stick side of the carrot and stick approach to management. While very few modern theorists agree with this theory, it seems that there are still a number of managers who do, or at least act as if they do.

Theory Y

Attributed to Douglas McGregor, this theory says that people want to work, want to learn, and need challenges (actually self-challenges). In other words, they are looking for self-development. When a manager gives them leeway and freedom to find their own challenges and work through self-direction, the management style meets Theory Y. To many, this seems to be a soft, wimpy management style. However, it does seem to work when the group is reasonably homogeneous, especially when people can choose their own leaders. So don't ignore the thought.

Theory Z or Maslow's Hierarchy of Needs

According to Maslow, people have five needs that dominate their behavior. When one need is satisfied, the person aspires to the next higher need. The lowest need is physiological (food, shelter, clothing) and the hierarchy ascends through safety, love, self-esteem, and self-actu-alization. Motivation must match the level of the hierarchical need of the individual at the time. The problem for the typical manager is knowing at which level a person is, and knowing when that person's level has changed as a result of outside circumstances.

Hygiene-Motivation Theory

Frederick Hertzberg theorizes that people act according to their own self-enlightened interests. They have two types of needs: animal or hygiene needs (salary, supervision, interpersonal relations, and working conditions); and human or motivation needs (recognition, work, responsibility, and advancement). The factors in the first group can be demotivators if unsatisfactory, but have limited use as motivators. The second group are the positive motivators.

Modern Theories

Three of the most commonly discussed (OK, accepted) theories today are those of Chris Argyris, Rensis Likert, and Fred Luthans. Argyris says that organizations and jobs need to be restructured to enable individuals to develop to the fullest extent possible. This provides satisfaction and internal motivation. Likert divided management into four styles: exploitive-authoritative, benevolent-authoritative, consultative, and participative. He says that participative management (in which the employees have input in decisions, normally made in groups) satisfies the whole range of human needs and is, therefore, the most motivating. Luthans advocates a "contingency approach," where certain practices work best on certain people and certain jobs. For example, an authoritative approach works best for rigid, highly controlled, and inflexible jobs, while the opposite works with more flexible, creative jobs. In other words, fit the approach to the person and the job.

Putting Theory into Practice

The basic idea of motivation is to answer the employee's question, "What's in it for me?" That may sound a little

> Employees need to be recognized for the good things they do.

crass, but it's the truth. While there are general actions that hit some of the needs of most employees, there are specifics that you may have to determine for each individual.

Everyone is motivated by different things, and motivation can be affected by the age and generation of the employee. Baby Boomers, Generation Xers, Generation Yers—they want different things. Take a little time to research the differing needs of employees of different generations. What you discover should impact your motivational actions. A good article (with its reader comments) is posted at < http://blog.sironaconsulting.com/sironasays/2007/12/our-futurex-ver.html > .

Whatever steps you take with your employees, the first should be to find out what *really* motivates each person. Ask people, listen to them, and observe them. Here are some of the strategies for motivation that almost always work:
- Treat employees with respect
- Use good two-way communication
- Have high expectations
- Use positive reinforcement
- Employ effective discipline and punishment
- Treat all fairly
- Set work-related goals
- Satisfy employee needs
- Restructure jobs when possible
- Base rewards on job performance.

Meeting *Their* Needs Meets *Yours*
Let's look at the strategies in more detail.

Respect. Step one is to treat all your employees and others with respect. How you act toward those under your supervision and around you has an impact. It's not just those who work for you but anyone with whom you have contact—your peers; people under you; and those in positions that can be considered service or support positions, like waiters, secretaries, the mailroom staff, and so on. People notice how you treat other people. If you are rude, demanding, or demeaning to people, you demotivate them. When you treat people with respect, they will want to work with you or for you. Being respectful or nice *doesn't* mean letting people roll over you. You can be strong but tactful and polite.

How you treat a person will influence how your needs are handled or the priority applied to your work or requests. Someone whom you mistreated could even directly sabotage or undermine your work if he or she is upset enough. On the other hand, kindness and politeness can pay great benefits. Then people want to please you. You might be surprised how something as simple as a cheerful "good morning" or a polite "thank you" can help motivate your people. Being polite is not being obsequious.

Communication. Employ good two-way communication. While step one took in all those around you, we will limit the discussion on step two to those who work for you. Make sure your project team members know your goals for and your expectations of them. Communicate clearly what the each task entails and the results required. Spend time figuring out how to articulate everything clearly. Good communication—one-on-one and with the whole team—is a must for any manager.

You also need to listen to your employees. Not just, "Yeah, I hear you; now go do what I told you to do," but *really* listen to what they have to say. Listening not only helps motivate a person, it also helps you to understand what else will motivate that person. As an added benefit, you also might get good suggestions on how to do a task better, ideas for process improvement, identification of a problem, or a resolution to a problem.

Expectations. Having and communicating high expectations for your employees is critical. If people know that you expect good things from them, they are motivated to live up to those expectations. A positive self-fulfilling prophecy works.

Reinforcement. Positive reinforcement is critical. It can be both subtle and more obvious. With today's tight budgets and the regulations within government, it may be hard to do too much that is tangible—pay raises, bonuses, cash awards, or gift certificates. If you *can* do something tangible, great. If not, perhaps a reward of time off or a more flexible schedule is possible. Maybe it is a special parking place for a specified period of time or some other similar recognition. Try to make the reward fit the desires of the employee.

Employees need to be recognized for the good things they do. What about the extra responsibility that your people have had to assume? What about overtime, especially if it is unpaid overtime? How about helping or mentoring others in the workplace? Have you recognized anyone for those types of activities? Yes, it is their job, but you have to admit that there are people on your team who go above and beyond at work. They are definitely worthy of at least a "thank you" in front of their coworkers and even your boss. Be positive, be specific, and be sincere. Sincerity is critical. Meaningless praise will get you nothing.

Discipline. On the other hand, you also have to effectively discipline those who are not doing their share or who are breaking the rules. Always try to do that privately, if possible—and sometimes it isn't. If you have people who continually shirk their duty or break rules, you may have to get rid of them. Knowing that there are going to be retributions when a line is crossed motivates people. It is not fear, but the knowledge that those doing right are rewarded and those doing wrong are disciplined.

With positive motivation, managing your people gets easier, and project success is more readily available.

Fairness. All must be treated equitably. You cannot have favorites—or, shall we say, non-favorites. When people do good, point it out; if they do bad, don't ignore it. You can't let a favorite be continually late with nothing said or done if you punish someone else for the same offense. People watch for those kinds of things. Unfair treatment, good or bad, can damage motivation, morale, and productivity.

Goals. You have to set work-related goals with your people. The goals should be clear, fair, reachable (although "stretch goals" are fine), and quantifiable. You need to set the goals *with* your team members, not *for* them. Get their input. That may mean some negotiation, but talk the goals through. When people have goals, they frequently motivate themselves and find ways to meet those goals. That is especially true when there is some reward that is valuable to them.

Needs. All the things mentioned so far (and to come) are a part of "satisfy employee needs." If you don't satisfy your people's needs, you may find them leaving to work for someone else. There may be other needs that you have to consider. I mentioned tangible rewards, time off, and more flexible schedules. There's also the chance for promotion or to try something different. It could be anything. But if you can't do something, it is a good idea to let your people know and to let them know why.

Restructuring jobs. This is frequently difficult, but it can have a large impact. If you can do something to minimize or get rid of what a person perceives as the "bad" parts of a job (tasks that are redundant or boring), that is fantastic. Or if you can broaden the scope of a job to include tasks that people enjoy, want to learn, or, for some other reason, enhance the job, then do it. Again, you have to be careful. All of the required tasks have to get done, but maybe you can make them more tolerable.

Performance rewards. Base all rewards on job performance. Don't let personality play a part. Give out the kinds of rewards or recognition that you can, but do it fairly. Make sure that it is in relation to meeting goals. Do it to meet employee (and organizational) needs. And do it based on the work that they do.

With positive motivation, managing your people gets easier, and project success is more readily attainable. But motivation doesn't only apply to people on projects—it's a basic managerial requirement for success at any time.

The author welcomes comments and questions and may be reached at rwturk@aol.com or wayne.turk@sussconsulting.com.

Goin' Green

Increasing DoD's Environment-Friendly Practices

Carol Scheina

As Kermit the Frog famously noted, "It's not easy bein' green." Especially in the world of the Department of Defense.
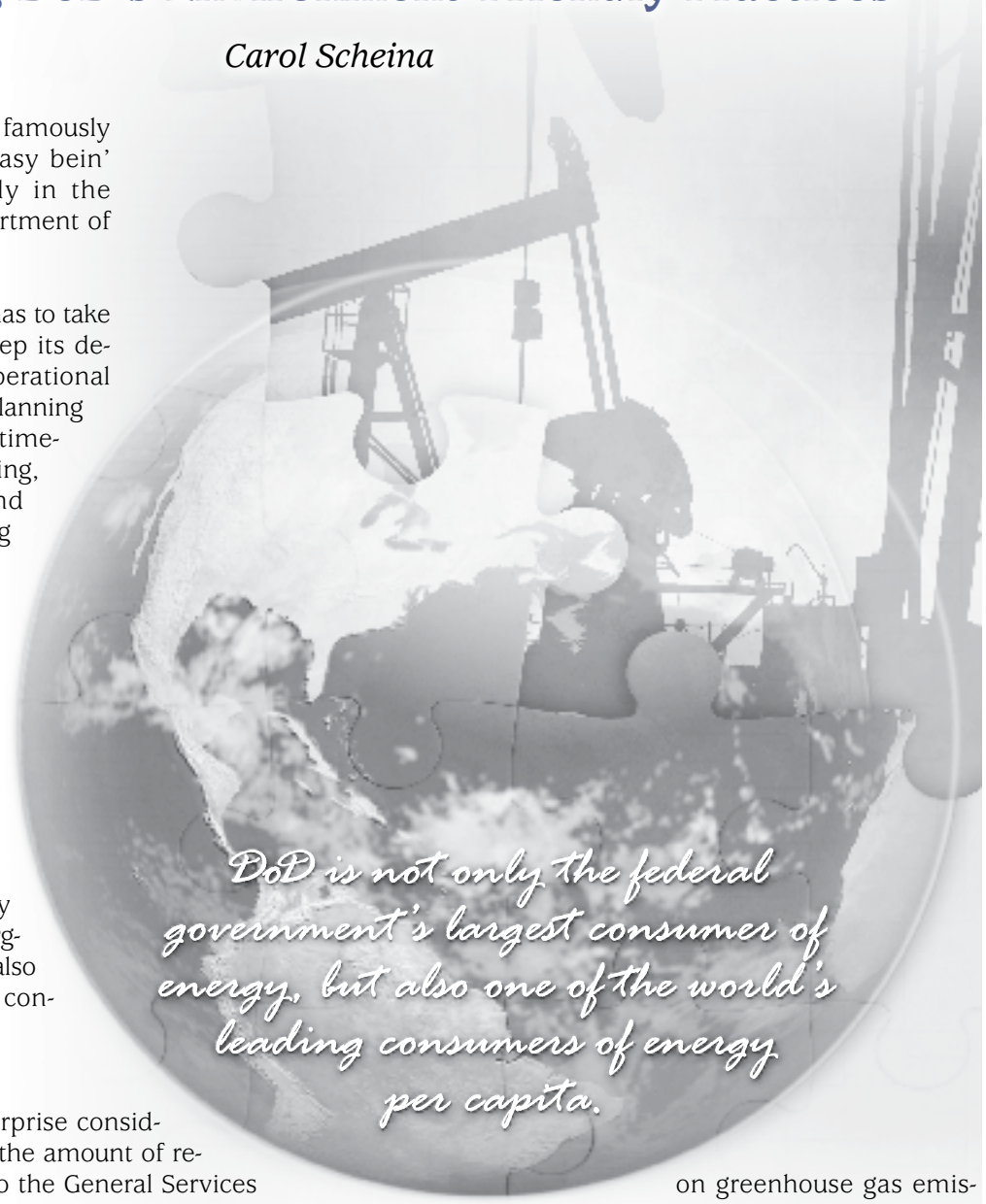
After all, look at what DoD has to take into account in order to keep its defense tools and systems operational and up to date: Cost, risks, planning and design, development, timelines, program reviews, testing, employee development and retention, knowledge sharing and collaboration—Whew! And the list goes on.

Of course, I don't want to tip the scales in everything that DoD oversees as part of its responsibility of providing for U.S. security and defense, but the fact is that the environment is not something DoD can ignore. The department is not only the federal government's largest consumer of energy, but also one of the world's leading consumers of energy per capita.

Big Energy Consumption

DoD's energy use isn't a surprise considering its immense size and the amount of resources it uses. According to the General Services Administration's 2006 *Federal Fleet Report*, DoD has a total of 187,493 non-tactical vehicles that gulped up 97 million gasoline gallon equivalents. DoD's worldwide operations, containing an estimated 577,000 buildings, consumed 1,100 trillion British thermal units. And according to its 2006 annual report, the Defense Energy Support Center sold more than $12 billion of energy to DoD.

The figures are rather ugly when you consider the negative effects this has on outdoor air quality and

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on greenhouse gas emissions and concentrations. The figures become downright scary when you consider that many energy sources, notably oil, reside in countries that are volatile or have governments that are not on the best relations with the United States.

"For too long our nation has been dependent on foreign oil. And this dependence leaves us more vulnerable to hostile regimes, and to terrorists—who could cause huge disruptions of oil shipments, raise the price of oil, and do great harm to our economy," said President George W. Bush in his January 2007 State of the Union Address.

Scheina is managing editor of Defense AT&L.

"It's in our vital interest to diversify America's energy supply—the way forward is through technology. We must continue changing the way America generates electric power, by even greater use of clean coal technology, solar and wind energy, and clean, safe nuclear power. We need to press on with battery research for plug-in and hybrid vehicles, and expand the use of clean diesel vehicles and biodiesel fuel. We must continue investing in new methods of producing ethanol—using everything from wood chips to grasses, to agricultural wastes."

Bush's State of the Union Address was a call for the United States to change the way it does business. That doesn't mean simply placing more blue recycle bins throughout work buildings. For DoD, that means changing the way it buys, builds, and even works.

Changes in DoD's environmental practices affect everyone from program managers to engineers to human resources specialists. This article discusses a few green practices that DoD employees will see used increasingly in the coming years. While the article cannot cover all the department's environmental endeavors, it will hopefully make employees aware that as DoD continues to change the way it does business, some of those changes involve the environment.

Giving Greenbacks to Get Green Products
Part of developing an environmentally friendly framework for the way DoD does business means buying green. Let's look at a couple of items that affect how DoD purchases everything from computers to toilet paper.

In 2004, DoD issued a new green procurement policy that aims to:
- Educate all appropriate DoD employees on the requirements of federal "green" procurement preference programs, their roles and responsibilities relevant to these programs and the DoD green procurement policy, and the opportunities to purchase green products and services
- Increase purchases of green products and services consistent with the demands of mission, efficiency, and cost-effectiveness, with continual improvement toward federally established procurement goals
- Reduce the amount of solid waste generated
- Reduce consumption of energy and natural resources
- Expand markets for green products and services.

There's accountability for that policy. In March 2008, all federal agencies reported to the Office of Management and Budget on how much recycled materials they are using for toilet paper, toner cartridges, engine lubricating oil, signage, park benches/picnic tables, and other items. OMB also asked agencies to report a strategy for buying energy-efficient and environmentally friendly products in the future.

In January 2007, President Bush signed Executive Order 13223, "Strengthening Federal Environmental, Energy, and Transportation Management." The order requires a government installation to develop an environmental management system, or EMS, which is a formal framework for integrating the consideration of environmental issues into the overall management structure. Agencies must also
- Improve energy efficiency and reduce greenhouse gas emissions
- Ensure that at least half of the energy consumed by the agency in a fiscal year comes from renewable sources
- Reduce water consumption
- Ensure that the agency reduces the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the agency

Defense locations are currently bringing environmentally friendly practices to reality.

- Maintain cost-effective waste prevention and recycling programs in its facilities
- If the agency operates a fleet of at least 20 motor vehicles, reduce the use of oil
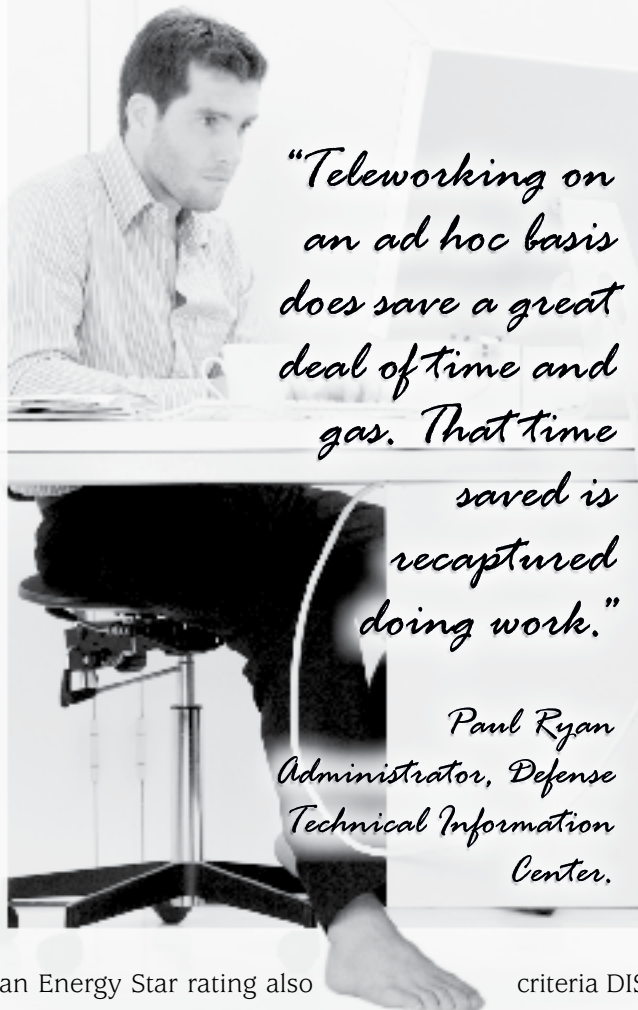- Dispose of agency electronic equipment in an environmentally sound manner.

That's not all. The order also requires that at least 95 percent of computers, laptops, monitors, and other electronic equipment be registered with the Electronic Product Environmental Assessment Tool. EPEAT is an online system designed to provide environmental information about electronic products, such as how much energy is used, materials selected, and longevity. If an electronic device doesn't have an EPEAT rating, then an Energy Star rating also works.

"Teleworking on an ad hoc basis does save a great deal of time and gas. That time saved is recaptured doing work."

Paul Ryan
Administrator, Defense Technical Information Center.

and Closure (BRAC) window of opportunity is the perfect time to build from scratch buildings that use the latest and greatest environmental techniques.

As part of BRAC, the Defense Information Systems Agency will be consolidating its headquarters into a new building under construction at Fort Meade, Md., and the environment is certainly a factor.

"DISA's new facility is required to obtain a Leadership in Energy and Environmental Design (LEED) Silver Rating through sustainable construction and design," according to Dave Bullock, DISA's BRAC executive. "Although the designer of record has great latitude in obtaining the LEED Silver rating, there are certain criteria DISA is requiring them to meet."

Green Energy Devices and Buildings

President Bush's Advanced Energy Initiative sets a national goal of replacing more than 75 percent of U.S. oil imports from the Middle East by 2025. DoD has its own goals to make. An amendment to the 2006 Department of Defense Authorization Bill sets a goal for the department to convert 25 percent of its electronic resources to renewable energy sources by 2025. In 2006, only 8 percent of DoD's electricity came from renewable energy.

Defense locations are currently bringing environmentally friendly practices to reality. Nellis Air Force Base in Nevada recently built a "Sun Park" Photovoltaic Power Project that allows the base to take advantage of the sunny Nevada days by converting solar rays to energy. It is the largest solar power plant in the United States. And in sunny Hawaii, the world's largest solar-powered housing community was built at Army Hawaii Family Housing. The Navy is currently building a new geothermal electricity generation plant at Naval Air Station Fallon and evaluating Ocean Thermal Energy Conversion and Ocean Wave Energy technology.

In addition to developing environmentally friendly practices at currently existing locations, the Base Realignment

The LEED system—which was created by the U.S. Green Building Council as a standard for buildings in regards to environmentally friendly design, construction, and operation—reviews the site selection, water efficiency, energy performance, and even indoor furniture of a building before pinning a silver or gold star on it. DISA is working with contractors to ensure that all those criteria are met by its general contractor.

What's more, when the energy and water bills roll in for the newly constructed DISA building, there are going to be some considerable savings.

"The Energy Policy Act of 2005 has many energy goals and requirements that affect all federal buildings. DISA's new facility is required to be designed to achieve energy consumption levels that are below the levels established in the ASHRAE 90.1-2004, [*American Society of Heating, Refrigerating, and Air Conditioning Engineers Standard 90.1-2004*]," Bullock noted.

Work in Your Pajamas

What's another way to keep those energy and water costs low? Well, what if there were fewer employees physically working at a building? There would be fewer computer monitors draining power and fewer government toilets being flushed, for one thing.

Teleworking—using the Internet, home telephone, and even private fax machines to work from home or an alternative location—is getting more and more recognition from senior policy makers. After all, it's not just a way to cut down on energy and water costs or to reduce emissions from vehicles.

"A telecommute program would allow employees to work from home when they, or their family members, get sick. Periodic transit strikes, bad weather, traffic incidents, and increased security due to terrorism threats at transportation hubs might also prompt employers to think about setting up a telecommute program," said John Edwards, chairman and founder of the Telework Coalition, in the Winter 2006 *It All Adds Up* newsletter.

The U.S. Senate recognizes the benefits of teleworking. In November 2007, the Senate Homeland Security and Governmental Affairs Committee voted to make it easier for federal employees to telework by passing a bill that would allow all federal employees eligible to telework, excepting those who work in intelligence, those who work with sensitive information, and those whose job requires a physical presence. This is a step beyond the previous telework policy, which stated that only those granted supervisory approval could telework. In 2006, the Office of Personnel Management reported that only 111,549 federal employees out of 1.8 million teleworked. That number will hopefully continue to grow.

"I have a 90-mile commute, so it is a long one. But teleworking on an ad hoc basis does save a great deal of time and gas. That time saved is recaptured doing work," said Paul Ryan, the Defense Technical Information Center administrator. DTIC offers all of its employees the option to telework on a regularly recurring basis or an ad hoc basis, and about 70 percent of the center's workforce teleworks.

Change is A-Comin'
It's not going to happen overnight, but change is coming for DoD. Growing energy dependence is risky for department operations, as President Bush pointed out, and there need to be better energy practices. Also, environmentally friendly techniques such as telework can help protect the department from lost productivity resulting from terrorist attacks. Recent policies and orders demonstrate that better accountability for the department's environmental practices will benefit the department.

Ultimately, there's just one Planet Earth. Just as the warfighter defends our country, DoD can defend our planet.

agers are likely to influence *down* or *across* to motivate others to meet deadlines, complete deliverables, or provide information and expertise. Program managers have a greater need to influence *up* in order to gain buy-in at program inception and secure the resources necessary for successful implementation.

As for the differences, the number one competency for each role is telling. Project managers use *Analytical Thinking* to evaluate issues, adjust plans, and solve problems as the project progresses. Program managers, however, must maintain a broader view. They use *Systematic Thinking* to track the interconnections across projects and recognize issues or conflicts that will put milestones at risk.

Program managers also need to understand the impact their programs will have on other areas of the business. Their focus on strategic thinking and the overall business processes differs from that of a project manager, whose customer focus is directed on the short-term needs of internal or external customers.

In terms of the differences in competencies between the two roles, we should note that the program manager is likely to have been a project manager at some point in time and has already developed the skills and competencies required for success in that role. Also, the goal here is to discuss the most important professional competencies for each role. There are certainly other relevant functional and technical skills. That is, just because communication skills are not listed among the most important competencies for program managers, it's not to imply the skill isn't useful. However, our data show that communication skills do not differentiate the high performer from the average performer as much as the competencies on our list.

What Does It All Mean?
Although there are similarities between project managers and program managers, there are fundamental differences as well. Recognizing these differences can help organizations enhance the impact of their selection processes, training and development efforts, and performance management systems. Recognizing and articulating the differences in a clear and compelling way will lead to greater productivity and business results.

In the News

ARMY ANNOUNCES ARMY CONTRACTING CAMPAIGN PLAN

Secretary of the Army Pete Geren announced Feb. 29 his Army Contracting Campaign Plan to address findings and recommendations from two previous independent reviews—the Gansler Commission and the Army Contracting Task Force. Under the leadership of Acting Under Secretary of the Army Nelson M. Ford, the ACCP will enable the Secretary of the Army to execute recommended improvements to Army contracting.

The ACCP will continue ongoing efforts to identify and implement needed changes in doctrine, organization, training, leader development, materiel, personnel, and facilities, while coordinating efforts across the Army's force development process. The ACCP will also comply with Congressional reporting requirements outlined in Section 849 (b) (1) of the National Defense Authorization Act for Fiscal Year 2008 (Pub. L. 110-181). The ACCP will be used to integrate Army efforts with similar initiatives under the purview of Office of the Secretary of Defense.

Further, Geren recently directed the establishment of the U.S. Army Contracting Command as a major subordinate command of the Army Materiel Command and the realignment of the U.S. Army Contracting Agency under the AMC. This decision immediately implements the Gansler Commission recommendation to restructure Army contracting efforts and assign responsibility to facilitate contracting and contract management in expeditionary and U.S.-based operations.

The ACA presently provides contracting services for installation-level services and supplies, and common-use information technology hardware, software, and services. The realignment of ACA to AMC places the majority of the Army's contracting resources into one Army command, which will provide a full range of contracting services.

The ACC will be a two-star-level command with two one-star-level subordinate commands: an expeditionary contracting command and an installation contracting command. Specifics regarding the new command, its geographic locations, organizational structure, and milestones for staffing these organizations with qualified persons are still being developed.

For further information, contact Department of Army Public Affairs, 703-697-7591 or 5344; or U.S. Army Materiel Command Public Affairs at 703-806-8010.

PEO SOLDIER: MODERNIZATION AT GOOD VALUE

C. Todd Lopez

WASHINGTON—The Army is now modernizing what soldiers wear, carry, and fight with at a rate faster than at any time in history. "Modernization is occurring at mach speed in the soldier's world," said Brig. Gen. Robert M. Brown, Program Executive Officer, Soldier, and commanding general, U.S. Army Soldier Systems Center, during a session at the Association of the United States Army's Institute of Land Warfare Winter Symposium and Exposition in Fort Lauderdale, Fla.

400 Programs Under Way

The general said body armor has undergone nine changes in the past four years, while the helmet has undergone four changes in the past three years. And today, PEO Soldier is fielding a brigade with the 4th Infantry Division with a computer chip in the helmet to monitor the effects of blast and overpressure on mild traumatic brain injury.

"We are modernizing the soldier faster than we have at any time in the U.S. Army," he said. "It is our belief that the U.S. Army soldier today is the most survivable, lethal, capable soldier in the history of warfare. We need to keep it that way, and we need to improve it."

PEO Soldier views the soldier as part of an integrated system, and ensures that the soldier and everything he or she wears or carries works together as part of that integrated system.

While the technology PEO delivers to the soldier is groundbreaking, so is the amount of money being spent to put that technology in soldiers' hands. Brown told generals and defense industry insiders at the symposium that he believed the cost of equipping soldiers with the best technology is worth it.

"We are spending much more on the U.S. soldier than we ever have before—is that a good value?" Brown asked. "If you believe that fewer soldiers, doing more, and coming home alive is a good value—then this is a bargain. It'd be a bargain at two or three times the price."

Some of the 400 programs championed by PEO Soldier include the Land Warrior system, the body armor program, and the M-4 Carbine rifle.

M-4 Carbine

"All the scientific test results show the M-4 Carbine is a world-class weapon," said Brown. "And in many applications, it performs better than its peers."

The M-4 Carbine can replace such weapons as the M-3 submachine gun, the M-9 pistol, and the M-16A2 rifle. The weapon brings improved firepower compared to the weapons it replaces, and is a pound lighter than the M-16.

Brown said surveys on the M4 show soldiers have high confidence in the weapon and that it will remain the Army's primary weapon until the technologies PEO Soldier is currently working on have matured.

The general said the rifle has undergone some 68 substantive changes since it was first fielded: "The M-4 Carbine is not your dad's M-4 Carbine."

Body Armor

For protecting soldiers, PEO Soldier has brought on what Brown says is the best armor available today.

"We know that because we live-fire test every single solution," he said. "We don't give a solution to the soldier unless it's passed the live-fire test. We know it because it's battle-proven. We have vignette upon vignette of the body armor performing well beyond specification. And we have continually improved that body armor."

The most recent improvements to soldier's body armor include the fielding of the improved outer tactical vest. The side-opening vest increases soft ballistic coverage and adjusts for better comfort. The vest also includes an emergency quick-release that allows soldiers to remove the vest in emergency situations.

Depending on the size of the vest, the weight of the body armor system has been decreased by as much as 3.8 pounds.

Land Warrior System

Finally, Brown discussed the Land Warrior system, an integrated digital fighting system that improves situational awareness and survivability for dismounted soldiers. The system provides digital imagery and global positioning system (GPS) location information that provides soldiers exact locations of enemies or improvised explosive devices.

The Land Warrior system is an integrated digital fighting system that improves situational awareness and survivability for dismounted soldiers. The system provides digital imagery and GPS location information that provides soldiers exact locations of enemies or improvised explosive devices. Land Warrior has gone to battle in spring 2007 with the 4th Battalion, 9th Infantry Regiment, 4th (Stryker) Brigade, 2nd Infantry Division. Before being fielded in Iraq, the system's weight was reduced by 7 pounds. *Photo by PEO Soldier*

In the News

The Land Warrior system was sent into battle in spring 2007 with the 4th Battalion, 9th Infantry Regiment, 4th (Stryker) Brigade, 2nd Infantry Division.

"The 4-9th `Manchus' requested to take this system with them to Iraq in their deployment," Brown said. "As it turns out, they have been very pleased with the performance of that system, and I think one of the things that pleases them most is the rapid improvement in the system."

In September 2006, about half a year before the Manchus prepared to deploy, the Ground Warrior system underwent user testing. Then, the system weighed 17 pounds.

"That's far too much for a dismounted infantryman," Brown said. "But with feedback from the Manchus, we were able to knock that weight down in a very short period of time from 17 to 10 pounds. They took it into battle; the reliability was very high, and they found out they like all the situational awareness capabilities it brought to the table."

Even as the Manchus used the system in Iraq, PEO Solider worked to further reduce the weight of the system. The weight has been dropped to seven pounds, and Brown said they expect to reduce it even further.

Brown also said other Army units are interested in the system, and the Army is working with the Marine Corps with the expectation they too will be interested in the future.

AIR FORCE PRINT NEWS (MARCH 5, 2008)
REPLACE AGING AIRCRAFT OR RISK IRRELEVANCY, GENERAL SAYS

Staff Sgt. Jason Lake, USAF

MAXWELL AIR FORCE BASE, Ala.—The commander of Air Force Materiel Command, which is responsible for delivering war-winning capabilities to the rest of the Air Force, said during a visit to Air University here that Air Force officials must develop and buy new aircraft or risk the Service becoming irrelevant.

The Air Force must be careful not to be out-classed in the next war, said Gen. Bruce Carlson shortly after speaking with Air War College and Squadron Officer School students Feb. 27 about the importance of recapitalizing the Air Force's aging fleet to maintain air dominance.

"Soon we could be flying against aircraft and air defense systems that our older aircraft were not intended to fly against," Carlson said. "And if we don't have the freedom to operate in hostile territories, we risk fighting the next conflict on our home territory."

The recapitalization crisis Air Force leaders see today is a side effect of the United States winning the Cold War, Carlson said. After the fall of the Soviet Union in 1991, the United States took on the title of the world's only remaining superpower. As a result, national priorities shifted away from defense projects.

"The decision was made to reduce the defense budget for more domestic priorities because there was no longer a

Gen. Bruce Carlson, commander of Air Force Materiel Command, says he will work to "reinvigorate" the acquisition process and to focus on development, acquisition, and sustainment programs that will follow the life span of Air Force airframes from cradle to grave.
U.S. Air force photo

threat," the general explained. "This is when we went on what has been called a 'procurement holiday.'"

Unlike Army and Marine Corps assets that were able to reconstitute after Operation Desert Storm in 1991, Carlson said the Air Force has remained in an almost constant state of "war" for more than 17 years.

Leading up to Operation Iraqi Freedom in 2003, Air Force aircraft were charged with enforcing the no-fly zones in Iraq for more than a decade as part of operations Northern and Southern Watch. Additionally, Air Force aircraft also spearheaded NATO's strategic bombing campaign against the Serbian government in the Balkans in the late 1990s.

In recent years, Carlson said, required maintenance on the F-15 Eagle has skyrocketed to 600-700 hours more than official estimates. Last November, one of the older F-15 models assigned to the Missouri Air National Guard broke in half during a routine training mission, prompting the Air Force to ground the entire F-15 fleet for several weeks.

"We're getting into unknown territory because we've been flying airframes longer than expected," Carlson said. "We didn't build these aircraft to last this long, and we didn't expect to see corrosion of this magnitude. The F-15 is expected to remain in service until it's more than 40 years old. At this rate, maintenance costs are going to kill us."

In an Associated Press report last week, one senior Air Force official talked about the serious effects caused by the high operations tempo and G-force stress on older fighters. Gen. John Corley, Air Combat Command commander, said flight hours on aircraft like the F-15 could be compared to "dog years."

As China continues to modernize its military forces and Russian aircraft continue to test American responses near Alaska and Japan, the Air Force is at a critical point in maintaining air, space, and cyberspace dominance, Carlson said.

"There are others out there who are trying to build up their airpower so they can exert their will over us," he said.

On the aerial refueling front, Air Force leaders made a major announcement Feb. 29 that Northrop Grumman had been awarded a contract to produce up to 179 tanker aircraft at a cost of approximately $35 billion. The new KC-45A aerial refueling aircraft is slated to replace the 50-year-old KC-135 Stratotanker that currently provides air bridge capabilities for the entire Air Force inventory.

"It is the first step in our critical commitment to recapitalize our aging fleet to move, supply, and position assets anywhere. In this global Air Force business, the critical element for air bridge, global intelligence, surveillance and reconnaissance, and global strike is the tanker," said Vice Chief of Staff of the Air Force Gen. Duncan McNabb in making the announcement.

"The tanker is the number one procurement priority for us right now," McNabb said during the announcement of the tanker contract award. "Buying the new KC-45A is a major step forward and another demonstration of our commitment to recapitalizing our Eisenhower-era inventory of these critical national assets. Today is not just important for the Air Force, however. It's important for the entire joint military team and important for our coalition partners as well. The KC-45A will revolutionize our ability to employ tankers and will ensure the Air Force's future ability to provide our nation with truly global vigilance, reach, and power."

While senior Air Force officials continue to ask Congress for approximately $20 billion in additional funding over the next few years, Carlson said he will be working to reinvigorate the acquisition process and to focus on development, acquisition, and sustainment programs that will follow the life span of Air Force airframes from cradle to grave.

Lake writes for Air University Public Affairs.

ARMY NEWS SERVICE (MARCH 11, 2008)
JLTV ONE STEP CLOSER TO ENTERING TECHNOLOGY DEVELOPMENT
David M. Branham

The U.S. Army and Marine Corps co-hosted a three-day preproposal conference at Selfridge Air National Guard Base, Mich., Feb. 19-21, to inform industry of the U.S. government's acquisition strategy for the Joint Light Tactical Vehicle Program.

JLTV is a joint U.S. Army/U.S. Marine Corps program with the U.S. Army designated as the lead Service.

The conference came two weeks on the heels of the U.S. Army's Feb. 5 release of a request for proposal that invited suppliers, through a full and open competition process, to submit proposals for the development of a JLTV Family of Vehicles. The JLTV FoV and companion trailers will

be capable of performing multiple mission roles and will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations.

JLTV provides a vehicle platform that will utilize, to the maximum degree possible, solutions and technology being developed in the Army's Future Combat Systems program, the Tank Automotive Research Development and Engineering Center, the Army Research Lab, and the Office of Naval Research as well as commercial industry advances. The JLTV FoV will be used by all U.S. Services. Several foreign governments have already expressed a strong interest in joining the development of the JLTV vehicles.

The conference included numerous presenters from all program areas of expertise who provided industry with detailed guidance on how to craft their proposal to address the four important evaluation factors (technical, logistics commonality, cost, and past performance/small business participation).

Additionally, the government shared lessons learned from various research efforts and displayed vehicles developed under the Army's Future Tactical Truck System Advanced Concept Technology Demonstration and the Office of Naval Research Combat Tactical Vehicle Technology Demonstrator.

Over 200 industry representatives attended the conference, along with some international attendees.

"Today was a great meeting at Selfridge, and we are excited to be part of this program," said Kenneth G. Juergens, JLTV program director, Northrop Grumman/Oshkosh

Truck Corporation Team, who traveled to the conference from Oshkosh, Wis.

Northrop Grumman and Oshkosh Corporation announced a teaming arrangement last fall.

To the extent that Army and Marine Corps are aware, several industry teaming efforts have been formed to compete for JLTV contracts along with a few companies whose partnering plans are yet unannounced. They are:
- Northrop Grumman and Oshkosh Corp
- General Tactical Vehicle, a joint venture between AM General and General Dynamics Land Systems

The Office of Naval Research Combat Tactical Vehicle (Technology Demonstrator) rests on its hydraulic system at the shipping clearance height of 76.4 inches at the Nevada Automotive Testing Center (NATC), outside Carson City, Nev. NATC and military contractors displayed possible vehicle replacements for the Marine Corps to the motor transportation community on Feb. 7.
U.S. Marine Corps photo by Cpl. Eric C. Schwartz, USMC

- Lockheed Martin and BAE (formerly Armor Holdings)
- BAE Systems and International Military and Government, LLC, an affiliate of Navistar International Corporation (International Military and Government LLC is a wholly owned subsidiary of International Truck and Engine Corporation)
- Boeing, Textron, and SAIC

- DRS Sustainment Systems Inc. and Force Protection Inc.

"I personally got a lot out of this," said Michael Franklin, a member of the BAE Systems Team, who traveled from just outside Los Angeles to attend the conference. "You can only get so much information from a [U.S. Army JLTV] Web site," said Franklin.

"This was an important investment of time for key industry representatives to come to Selfridge in order to fully understand the entire scope and direction of the JLTV effort and hear the government's lessons learned during more than three years of precursor research and development efforts," said Col. John "Steve" Myers, project manager, Joint Combat Support Systems.

Asked what's next in the JLTV way ahead, Myers indicated the government will convene an evaluation board in April to review industry proposals to the JLTV RFP.

"The board, composed of subject matter experts from across the Department of Defense, will evaluate submitted proposals, and we expect to make three contract awards based on best value to the government in July 2008," said Myers. "This will then launch the planned contract performance of the technology development phase wherein the JLTV prototypes will be developed and tested."

A JLTV system development demonstration phase is currently planned to begin in 2011, at which point two contractors will complete the design and development of the JLTV FoV and companion trailers and ultimately compete to produce and field multiple JLTV variants.

"Pre-proposal conferences like this one are essential in ensuring that we are as open and transparent as we possibly can be," stated Lt. Col. Wolfgang Petermann, JLTV Army product manager.

"Every large, medium, and small business that was represented here now goes away with the same amount of information knowing it is a level playing field," said Petermann.

"It is exciting to see how far we have already come in this program," said Lt. Col. Ben Garza, U.S. Marine Corps JLTV program manager. "We have an achievable schedule, and the overwhelming turnout by industry is indicative of how successful this program is going to be."

For more information about JLTV, contact Don Jarosz, TACOM LCMC Public Affairs at 586-574-8820, or David M. Branham, PEO Land Systems, Marine Corps, at 703-432-4956, or < www.marcorsyscom.usmc.mil/ peolandsystems/ > .

Branham is with PEO Land Systems, Marine Corps.

PROJ MGR, DEFENSE COMMUNICATIONS & ARMY TRANSMISSION SYSTEMS (PM DCATS)
PD SCS UPGRADES SATELLITE 'HOTLINE' LINK BETWEEN U.S. AND RUSSIAN PRESIDENTS

Stephen Larsen

FORT DETRICK, Md.—The Detrick Earth Station (DES), which provides satellite communications capabilities including the Direct Communications Link (DCL), commonly known as the Washington-Moscow hotline, between the presidents of the United States and Russia, now has significantly enhanced capabilities, which should extend its life for another 10 years. This is thanks to a modernization and upgrade project completed in December 2007 by a multi-agency team led by the product director, Satellite Communications Systems (PD SCS), part of the Army's Program Executive Office, Enterprise Information Systems' (PEO EIS) Project Manager, Defense Communications and Army Transmission Systems (PM DCATS).

In addition to the DCL, the DES provides a number of other dedicated, secure, and reliable satellite communications links between the United States and Russia, including a link for the U.S. State Department's Nuclear Risk Reduction Center, which is used to exchange information in support of arms control treaties and security-building agreements; a link supporting the U.S. Strategic Command's Joint Data Exchange Center initiative to share early warning information on missile and space launches to reduce the risk that a test, experiment, or space launch could be misread as a ballistic missile attack; and links for the White House Communications Agency and the Secretary of Defense.

"Thanks to the modernization and upgrade, the DES has a multi-carrier, multi-satellite capability, while before they had a point-to-point, single-satellite, single-carrier system," said Dan Singleton, project leader for PD SCS.

According to Vern Combs, the contracting officer representative for the project for the U.S. Army Network Enterprise Technology Command/9th Army Signal Command's (NETCOM/9th ASC) 302nd Signal Battalion, the upgrade has

more than doubled the station's communications capacity. He explained that before the upgrade, the DES was only capable of transmitting and receiving one carrier on one polarization, either left-hand circular polarization or right-hand circular polarization. Now, he said, both terminals can transmit or receive multiple carriers using both LHCP and RHCP at the same time. Translated, this means that the two terminals can both transmit or receive at the same frequency at the same time without interfering with each other—which means more than double the throughput, or the amount of digital data the two terminals can transmit or receive per time unit.

Chris Potter of NETCOM's 21st Signal Brigade said because the upgrade employed state-of-the-art, supportable equipment, it will help to ensure the system's availability. "The DCL is not a normal, run-of-the-mill system," he said. "The purpose of this system is to prevent the outbreak of nuclear war; the customer is the president of the United States. The availability must be 99.99 percent."

The 302nd Signal Battalion hosted a ribbon cutting ceremony on March 26, and Lt. Col. Marie Grimmer, commander of the 302nd Signal Battalion, noted that the project was originally scheduled to take two years and that the team completed it in one year, replacing unsupportable equipment with state-of-the-art, depot-supported electronics of the same type employed at one of the DoD teleport sites or a commercial facility and increasing capacity. She added that now one of the two DES terminals can perform the current DCL mission, freeing up the second terminal for other missions, as needed.

Grimmer also thanked Honeywell Technology Solutions, which has operated the DCL for 28 out of the last 30 years. "The DCL has been operating with an unprecedented reliability rate for more than 30 years," said Grimmer. "There has not been an outage of the DCL attributed to the DES since 1991, the last upgrade. That didn't just happen; it took the commitment, the dedication, the professionalism of a team of experts."

Grimmer noted that when the twin towers of the World Trade Center collapsed on 9/11, commercial overseas communications lines via undersea cables were severed, but the DCL remained in operation.

"For those of you that were unaware, after 9/11, the first phone call from a foreign leader to President Bush was processed through the DCL from President Putin," said Grimmer. "This is truly an example of the DCL's motto in action: 'Peace through communications.'"

Media contact is Stephen Larsen, 732-427-6756 or stephen. larsen@us.army.mil.

U.S. ARMY DEVELOPMENTAL TEST COMMAND PUBLIC AFFAIRS (FEB. 6, 2008)
TESTING TO MAINTAIN FUTURE MILITARY EFFECTIVENESS—THE COLD REGIONS TEST CENTER
Linda Spears

Terrorists today pay little attention to national borders or world environments. As such, areas that were once considered too extreme for large-scale military operations are now areas of military engagement. Extremes such as high temperature, low humidity, and heavy dust are now normal military operating environments.

The Developmental Test Command (DTC) supports warfighter by maintaining test centers located in and representative of the four main climatic regions of the world: polar, humid temperate, dry, and humid tropic. DTC's natural environment test centers are analogs to broadly defined environmental regions of the world. The Cold Regions Test Center (CRTC) is located in the polar climatic region and represents the world's cold regions.

Cold regions are generally cool, with minimum winter temperatures below -46°C (-50° F). Soils are seasonally frozen and may contain areas of permanently frozen soil (permafrost) in the high latitudes of the polar region. Surface and subsurface drainage can be poor, creating muddy summertime conditions and numerous lakes, ponds, peat bogs, and swamps. Where permafrost exists, vegetation consists of low-growing grasses and brush. In other areas, vegetation consists of needle leaf forests and open woodlands.

Developed as a site for testing equipment for winter battlefield conditions, CRTC is unique among the Army's test facilities in that it provides a testing environment that combines the interacting effects of climate, terrain, and vegetation found in a cold region.

After difficulties encountered in World War II, the Army recognized that operating in a cold environment required dedicated testing and training ranges to develop soldier skills as well as test equipment that performs well in the environment. Today, CRTC provides cold weather expertise and a wide array of natural environmental test services for the materiel and doctrinal developers of Army equipment and munitions. It is also used by other government agencies, universities, and commercial companies to address the design and performance of items in a cold

environment. CRTC conducts technical tests of equipment in operational conditions that can represent temperate and high altitude winters as well as the cold operating environment.

To take advantage of the natural climate and related environmental features, DTC developed facilities and instrumentation at CRTC to provide support and access to the more than 670,000 acres of range, and associated controlled airspace. This infrastructure leverages environmental conditions that encompass the extreme cold found in a cold region, the more moderate winter conditions generally found in a temperate area, and summertime moderate conditions with close to 20 hours of daylight. Support facilities include an admin-

Soldiers train on artillery in the winter at the Cold Regions Test Center (CRTC) at Fort Greely, Alaska. This Developmental Test Command center experiences more consistently frigid days in the winter than any region of the lower 48 states, making CRTC a good place for winter training as well as testing.
Photo courtesy of CRTC

istrative and test complex with barracks for 72 military personnel, a dining facility, and staff offices, as well as the staff and shops for instrumentation, audiovisual, technical editing, network operations, heavy and light equipment maintenance, and fabrication.

A 3.2 mile asphalt test track, paved slopes, skid and lateral acceleration pads, as well as maintenance and office buildings make up the mobility test complex. The fenced and secure area also has cross country and secondary roads providing a full complement of mobility courses for winter reliability, road handling, and brake testing.

Among the many systems tested at CRTC are those that demonstrate the Army's commitment to being prepared for conflict in any environment, including the Stryker Nuclear, Chemical, Biological Reconnaissance Vehicle (NBCRV); Stryker Mobile Gun System (MGS); Guided Multiple Launch Rocket System (GLMRS); and the Excalibur 155mm artillery projectile.

Testing for the cold environment means operating the vehicle in ambient air temperatures ranging from -42° to 67° F over a variety of paved and unpaved roads and cross country trails in typical winter conditions of snow and ice, accumulating more than 4,000 miles. During these test miles, all subsystems—e.g., safety, ergonomics, automotive performance, position/navigation capabilities, mobility, reliability, the remote weapon station, and the system sensor suite, to name a few—are tested and assessed for cold weather performance. When necessary, CRTC assists the program manager with the development of design changes to improve the system performance. These changes, whether simple procedural alterations, complex engineering modifications, or changes in tactics, techniques and procedures, increase the overall effectiveness of the system.

Among the most advanced weapons are those that use inertial guidance systems, have integrated global positioning systems, increased range, and precision accuracy like the GLMRS. This system has proved itself in desert testing and operation and it continues to be proven through cold weather testing. The GLMRS was tested at CRTC in the winter of 2006. During this test, six rockets were launched in temperatures between -23 F and -18 F. The effects of the rocket and its warhead in both proximity and point detonate fuse modes, the warhead effectiveness, and the

rocket and guidance performance were characterized in the cold environment.

The Army's weapon systems are developed to perform in any environment. This level of performance is critical to protecting American freedoms by maintaining the ability to take the fight anywhere in the world. As a natural environment test center, CRTC assesses performance of military equipment in the cold environment. Through the work of CRTC and the other natural environment test centers, DTC ensures that Army systems are exposed to the natural environment before being relied on to support the soldier's mission in the world.

Spears is the Developmental Test Command's chief of business and technology

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 7, 2008)
DEPARTMENT OF DEFENSE RELEASES SELECTED ACQUISITION REPORTS

The Department of Defense (DoD) has released details on major defense acquisition program cost, schedule, and performance changes since the September 2007 reporting period. This information is based on the Selected Acquisition Reports submitted to the Congress for the December 2007 reporting period.

SARs summarize the latest estimates of cost, schedule, and performance status. These reports are prepared annually in conjunction with the president's budget. Subsequent quarterly exception reports are required only for those programs experiencing unit cost increases of at least 15 percent or schedule delays of at least six months. Quarterly SARs are also submitted for initial reports, final reports, and for programs that are rebaselined at major milestone decisions.

The total program cost estimates provided in the SARs include research and development, procurement, military construction, and acquisition-related operation and maintenance (except for pre-Milestone B programs, which are limited to development costs pursuant to 10 U.S.C. §2432). Total program costs reflect actual costs to date as well as future anticipated costs. All estimates include anticipated inflation allowances.

The current estimate (shown above) of program acquisition costs for programs covered by SARs for the prior reporting period (September 2007) was $1,702,133.0 million. After subtracting the costs for two final reports

	Current Estimate ($ in millions)
September 2007 (94 programs)	**$1,702,133.0**
Less final reports on two programs (EELV and WIN-T)	-52,090.3
Plus two new programs (WIN-T Increment 1 and WIN-T Increment 2)	+ 7,786.7
September 2007 Adjusted (94 programs)	**$ 1,657,829.4**
Less one program to reflect the consolidation of Chem Demil-CMA Newport into Chem Demil-CMA report	0.0
Changes Since Last Report	
Economic	$ -4,300.5
Quantity	-7,765.0
Schedule	-1,717.9
Engineering	+ 1,856.6
Estimating	+ 15,384.9[1]
Other	+ 765.1
Support	-19,079.1[1]
Net Cost Change	**$ -14,855.9**
December 2007 (93 programs)	**$1,642,973.5**

[1]The large increase in Estimating and the large decrease in Support include an F-35 transfer of $9,151.0 million, primarily to recategorize Diminishing Manufacturing Sources and Technology Refresh costs from Support to Estimating (nonrecurring flyaway).

for Evolved Expendable Launch Vehicle (EELV) and Warfighter Information Network–Tactical (WIN-T) and adding the costs for two new programs, WIN-T Increment 1 and WIN-T Increment 2, from the September 2007 reporting period, the adjusted current estimate of program acquisition costs is $1,657,829.4 million. For the December 2007 reporting period, Chemical Demilitarization-Chemical Materials Agency Newport (Chem Demil-CMA Newport) was consolidated into Chem Demil-CMA.

In the News

For the December 2007 reporting period, there was a net cost decrease of $14,855.9 million or -0.9 percent for the programs that have reported previously. The cost decrease was due primarily to a net decrease in planned quantities (-$7,765.0 million), the application of lower escalation rates (-$4,300.5 million), and a net decrease in support requirements (-$9,928.1 million). These decreases were partially offset by additional engineering changes (hardware/ software) (+$1,856.6 million) and a net increase in program cost estimates (+$6,233.9 million). Further details of the most significant changes are summarized below by program.

There are three programs with Nunn-McCurdy unit cost breaches to their current Acquisition Program Baseline: AEHF (Advanced Extremely High Frequency Satellite), JAVELIN, and JTRS GMR (Joint Tactical Radio System Ground Mobile Radios). That is, the program acquisition or average procurement unit costs for these programs have increased by 15 percent or more to their current APB. For significant Nunn-McCurdy breaches, notification and unit cost breach information will be provided to the Congress, but there are no certification requirements.

New SARs
(As of December 2007)

The Department of Defense has submitted initial SARs for the following programs (see top chart) for the December 2007 reporting period. These reports do not represent cost growth. Baselines established on these programs will be the point from which future changes will be measured.

Summary Explanations of Significant SAR
Cost Changes as of Dec. 31, 2007

Army

ATIRCM/CMWS (Advanced Threat Infrared Countermeasure/Common Missile Warning System)—Program costs decreased $851.0 million (-15.0 percent) from $5,666.9 million to $4,815.9 million, due primarily to quantity decreases of 634 B-kits from 1,710 to 1,076 B-kits (-$675.4 million), reduced support costs resulting from the B-kit quantity reduction (-$186.5 million), economic savings from completing the buy of A-kits by fiscal 2010 (-$52.2 million), and unit cost reductions from accelerating the buy of CMWS mission kits (-$52.2 million). These savings were partially offset by increased costs of adding a fifth Electro-Optic Missile Sensor to each CMWS (+$181.6 million) and supporting integration of Inertial Navigation System data into CMWS in fixed wing aircraft applications (+$14.7 million).

Program	Current Estimate ($ in Millions)
LAIRCM (Large Altitude Infrared Countermeasures)	$ 366.0
MRAP (Mine Resistant Ambush Protected)	$ 22,415.0
SBSS B10 (Space Based Space Surveillance Block 10)	$ 823.9
Total	$23,604.9

FBCB2 (Force XXI Battle Command Brigade and Below)—Program costs increased $685.0 million (+25.5 percent) from $2,686.1 million to $3,371.1 million, due primarily to a quantity increase of 28,895 systems from 44,568 to 73,463 systems to support Operation Iraqi Freedom and Operation Enduring Freedom (+$683.0 million) and associated schedule, engineering, and estimating allocations* (+$99.0 million). There was an additional increase in other support for retrofit of Type I encryption for the increased quantities (+$114.1 million). These increases were partially offset by lower unit costs from beneficial contract pricing of the increased quantities (-$131.3 million) and lower estimates for the aviation A-kits (i.e., modification kits) based on current contract data (-$45.7 million).

FCS (Future Combat System)—Program costs decreased $2,609.9 million (-1.6 percent) from $161,930.1 million to $159,320.2 million, due primarily to the application of revised escalation indices (-$1,331.0 million) and a correction of previously reported costs that were overstated due to the use of incorrect escalation indices (-$913.2 million). There were additional decreases in other support (-$190.6 million) and Congressional statutory reductions and budget decrements (-$146.5 million).

GMLRS (Guided Multiple Launch Rocket System)—Program costs decreased $764.2 million (-11.3 percent) from $6,772.5 million to $6,008.3 million, due primarily to lower estimates of hardware costs for the unitary variant at the production decision (Milestone C) (-$496.6 million) and an acceleration in the procurement buy profile (-$68.9 million). Because of the shorter buy schedule, there were lower estimates for systems engineering/program management costs (-$84.5 million), engineering services (-$44.8 million), and government production verification testing (-$19.4 million).

 LUH (Light Utility Helicopter)—Program costs increased $208.4 million (+11.1 percent) from $1,881.8 million to $2,090.2 million, due primarily to a quantity increase of 23 aircraft from 322 to 345 aircraft ($139.3 million). There was an additional cost increase for modifications to address issues identified during the initial operational test (+$171.1 million). These modifications included ARC-231 secure radios and cabin ventilation kits for all 345 aircraft, engine inlet (air) filters for 66 aircraft, and medical evacuation kits for 84 aircraft.

STRYKER—Program costs increased by $2,560.2 million (+19.5 percent) from $13,130.9 million to $15,691.1 million, due primarily to a quantity increase of 640 vehicles from 2,887 to 3,527 vehicles (+$1,907.2 million) and associated schedule, engineering, and estimating allocations* (+$621.8 million), and spares and support associated with the quantity increase (+$425.1 million). There were additional increases for survivability enhancements (+$502.6 million), revised testing and management costs (+$375.7 million), and updated MILCON estimates (+$340.9 million). These increases were partially offset by a change in the mix of models procured and new cost estimates (-$797.1 million) and removal of Stryker Product Improvement Program funding (-$816.0 million).

Navy

DDG 1000—Program costs decreased $7,135.4 million (-19.8 percent) from $36,022.1 million to $28,886.7 million, due primarily to a quantity decrease of 3 ships from 10 to 7 ships (-$8,495.0 million) and revised estimates for budget reductions and inflation impacts on future ships (-$275.8 million). These decreases were partially offset by increases in fiscal year 2009 to fully fund ships 5-7 (+$693.6 million), quantity allocations* for schedule, engineering, and estimating (+$603.7 million), additional funding for the Advanced Gun System Pallets and Sea Strike capabilities (+$308.3 million), and the application of revised escalation indices (+$291.0 million).

LCS (Littoral Combat Ship)—Program costs increased $909.7 million (+46.9 percent) from $1,938.9 million to $2,848.6 million, due primarily to a revised estimate in Seaframe pricing that reflects substantial cost growth and post delivery work (+$496.1 million) and a revised estimate for mission module development and phasing due to maturation of the definition of the mission modules (+$271.2 million). Costs also increased due to a lengthening of the Flight 0 schedule to incorporate additional effort (+$71.3 million), a revised estimate for program development of Flight 0 and Flight 0+ planning and ex-

ecution (+$42.3 million), and additional scope for mission module development (+$40.7 million).

SSN 774 (Virginia Class)—Program costs decreased by $1,043.0 million (-1.1 percent) from $93,008.2 million to $91,965.2 million, due primarily to a lower estimate for labor and material costs (-$773.7 million) and an acceleration of the procurement buy profile that moved the fiscal year 2020 ship up to fiscal year 2111 (-$281.2 million).

T-AKE (Dry Cargo/Ammunition Ship)—Program costs increased by $1,086.4 million (+23.5 percent) from $4,628.8 million to $5,715.2 million, due primarily to the addition of one ship from 11 to 12 ships (+$471.0 million), associated outfitting and post delivery costs (+$84.5 million), and cost growth on previous ships (+$520.6 million).

Air Force

AEHF (Advanced Extremely High Frequency)—Program costs increased $940.5 million (+14.6 percent) from $6,421.5 million to $7,362.0 million, due primarily to a quantity increase of one satellite from three to four satellites (+$946.0 million). Congress appropriated advance procurement for Space Vehicle 4 (SV-4) in the fiscal year 2008 Appropriations Act. The Department added SV-4 full procurement in fiscal year 2010, with a launch capability targeted in fiscal year 2014.

C-130J—Program costs increased $3,958.2 million (+49.0 percent) from $8,071.1 million to $12,029.3 million, due primarily to a quantity increase of 52 aircraft from 82 to 134 aircraft (+$2,937.8 million) and associated estimating and schedule allocations* (+$399.6 million). There were additional increases in initial spares (+$85.7 million) and other support costs (+$546.9 million) associated with the higher aircraft quantity. These increases were partially offset by decreases from the acceleration of the procurement buy profile (-$18.1 million) and withholds for higher Air Force priorities and programming changes (-$12.6 million).

C-5 RERP (Reliability Enhancement and Re-engining Program)—Program costs decreased $6,375.3 million (-36.4 percent) from $17,506.2 million to $11,130.9 million, due primarily to net reductions in the Air Force cost estimate for equipment (-$3,332.0 million), installation (-$1,602.2 million), engineering change order estimates (-$505.5 million), and government-furnished equipment (-$210.2 million). Additionally, program costs decreased due to the application of revised escalation indices (-$41.0 mil-

lion), a decrease in advance procurement costs (-$192.1 million), and decreases in initial spares (-$414.2 million) and other support and training costs (-$417.6 million).

FAB-T (Family of Advanced Beyond Line-of-Sight Terminals)—Program costs increased $454.8 million (+14.4 percent) from $3,167.4 million to $3,622.2 million, due primarily to a revised cost estimate resulting from analysis by the Office of the Secretary of Defense Cost Analysis Improvement Group (+$348.8 million). Costs also increased due to a net quantity increase of 6 terminals from 216 to 222 terminals (+$44.7 million), adjustments in real and predicated escalation (+$26.6 million), an increase in initial spares (+$25.5 million), and a net stretch-out of the procurement buy profile (+$9.2 million).

NAVSTAR GPS (Global Positioning System) User Equipment—Program costs increased $718.4 million (+52.2 percent) from $1,375.3 million to $2,093.7 million due to an increase to allow for continuation of a multi-vendor strategy through delivery of prototype cards and to facilitate transitioning the prototype program into a full development/production program focusing on integration of military code (M-Code)-capable receivers into Service-nominated lead platforms.

SBIRS (Space Based Infrared Systems) High—Program costs increased $1,675.0 million (+17.0 percent) from $9,879.5 million to $11,554.5 million, due primarily to a quantity increase of one Geosynchronous Earth Orbit (GEO) satellite (+$821.6 million) from three to four GEO satellites and to fully fund the latest Office of the Secretary of Defense Cost Analysis Improvement Group cost estimate (+$866.1 million), which includes increased costs for flight software system schedule slips and follow-on production efforts for host support, launch support, and other government costs.

DoD

Chem Demil-CMA (Chemical Demilitarization–Chemical Materials Agency)—Program costs decreased $1,220.5 million (-4.3 percent) from $28,643.1 million to $27,422.6 million, due primarily to adjustments to disposal facility schedules to reflect the latest operational processing rates and reduced closure durations for sites where secondary wastes can be shipped offsite or destroyed during operations (-$1,138.3 million), and the application of revised escalation indices (-$127.9 million).

F-35 (Joint Strike Fighter)—Program costs decreased by $981.3 million (-0.3 percent) from $299,824.1 million to $298,842.8 million, due primarily to the application of revised escalation indices (-$1,955.8 million), lower material estimates because of prime contractor's material agreements (-$1,650.6 million), and incorporation of revised prime/subcontractor labor rates (-$879.4 million). There was an additional reduction for a revised estimate of support costs (-$7,445.0 million). These decreases were partially offset by higher estimates for elements of procurement nonrecurring costs (+$4,369.0 million), an adjustment to reflect manufacturing actuals for the system demonstration and development flight test articles (+$3,849.9 million), and a revised propulsion estimate to include additional hardware and increased lift fan cost (+$2,769.1 million). Overall, it should be noted that the Nunn-McCurdy unit costs are stable relative to the current and original baseline estimates.

JTRS HMS (Joint Tactical Radio System Handheld, Manpack, and Small Form Fit)—Program costs decreased $8,421.7 million (-71.4 percent) from $11,788.6 million to $3,366.9 million, due primarily to a quantity decrease of 232,963 radios from 328,924 to 95,961 radios (-$5,444.4 million), a reduction in costs because of a change in the type of radios purchased (i.e., change in model mix) (-$2,554.7 million), and a decrease in initial spares and other support associated with the reduced quantities (-$842.2 million). These decreases were partially offset by the addition of porting efforts for the Mobile User Objective System waveform (+$219.3 million) and a net stretchout of the procurement buy profile (+$157.6 million).

*Note: Quantity changes are estimated based on the original SAR baseline cost-quantity relationship. Cost changes since the original baseline are separately categorized as schedule, engineering, or estimating allocations. The total impact of a quantity change is the identified quantity change plus all associated allocations.

Spotlight on DAU Learning Resources

DAU AND NDIA TO SPONSOR DEFENSE SYSTEMS ACQUISITION MANAGEMENT COURSE OFFERING FOR INDUSTRY MANAGERS

DAU and the National Defense Industrial Association will sponsor an offering of the Defense Systems Acquisition Management (DSAM) course for interested industry managers Sept. 8-12, 2008, at the Loews Annapolis Hotel, Annapolis, Md.

DSAM presents the same acquisition policy information provided to DoD students who attend the Defense Acquisition University courses for acquisition certification training. It is designed to meet the needs of defense industry acquisition managers in today's dynamic environment, providing the latest information related to:
- Defense acquisition policy for weapons and information technology systems, including discussion of the DoD 5000 series (directive and instruction) and the CJCS 3170 series (instruction and manual)
- Defense transformation initiatives related to systems acquisition
- Defense acquisition procedures and processes
- The planning, programming, budgeting, and execution process and the congressional budget process
- The relationship between the determination of military capability needs, resource allocation, science and technology activities, and acquisition programs.

For further information see "Courses Offered" under "Meetings and Events" at < www.ndia.org > . Industry students contact Phyllis Edmonson at 703-247-2577 or e-mail pedmonson@ndia.org. A limited number of experienced government students may be selected to attend each offering. Government students must first contact Bruce Moler at 703-805-5257 or e-mail bruce.moler@dau.mil prior to registering with NDIA.

CONTINUOUS LEARNING MODULE REQUEST PROCEDURES

The Defense Acquisition University e-Learning and Technologies Center (e-LTC) and the Learning Capabilities Integration Center (LCIC) are pleased to announce a new DAU Web site for Continuous Learning Module (CLM) requests at < http://clc.dau.mil/clm_index.asp > . The site provides step-by-step procedures, useful references, and other needed information to assist the requestor. For example, the site contains content samples, references, process business rules, proposal forms, and other tools. DAU's intent is to provide the defense acquisition, technology, and logistics workforce an accessible DAU Web site to more effectively communicate the CLM request process to DAU faculty and staff. The DAU CLM site addresses new developments, major revisions, maintenance, and hosted requests.

CENTER FOR SIMULATION, TRAINING AND RESEARCH (C-STAR) OPENS AT DEFENSE ACQUISITION UNIVERSITY MAIN CAMPUS

As part of DAU's ongoing effort to "train as we operate," the new Center for Simulation, Training and Research (C-STAR) is focused on organizational team training in which teams of acquisition personnel from the same organization will move through training rotations together. DAU faculty is developing learning assets specifically designed to exploit this capability. The C-STAR is now operational at DAU's main campus at Fort Belvoir, Va.

The center features a number of cutting-edge technologies, including 40 state-of-the-art computers and two MERL Diamond-touch tables, which allow the user to interact with PC-based simulations using a touch screen. The main room will also feature a sufficient number of projection or display screens so that up to six groups can work in the center at any one time. Additionally, a gaming lab will explore the potential of using technologies such as gaming consoles as a way to interact with the AT&L workforce. Phase Two of the C-STAR build-out will be completed in fiscal year 2008. DAU's Phase Three plan includes such additions as telepresence, creating a live, face-to-face meeting experience over the network.

Similar sites are being planned for use at DAU locations across the country. The center will also be supporting the activities of the DAU's legacy Management Deliberation Center (MDC). For more information, contact Mark Oehlert at mark.oehlert@dau.mil.

ACKER LIBRARY UPDATES "DAWIA ANNOTATED—CURRENT LAW"

The Defense Acquisition University's Acker Library and Knowledge Repository recently updated "DAWIA ANNOTATED." The updated version includes annotations and footnotes showing the historical development of the original Defense Acquisition Workforce Improvement Act and amendments to the act since 1990. This current version of DAWIA is a valuable resource to the DoD AT&L community since the full text of Title 10 on the Library of Congress's Thomas Web site is more than two years out of date (as of March 10, 2008). For access to the current version of Chapter 87 (DAWIA) of Title 10, United States Code, click on < www.library.dau.mil/DAWIA_internet.htm >.

Spotlight on DAU Learning Resources

BRINGING BEST PRACTICES AND LESSONS LEARNED TO LIFE: THE DOD BEST PRACTICES CLEARING-HOUSE

Many government organizations have attempted to develop systems to capture best practices or lessons learned, but have fallen short of success. As programs are asked to do more with tighter budgets and schedules, it becomes crucial to avoid past mistakes. However, finding appropriate best practices is not always easy. Rarely is there evidence about expected outcomes resulting from a particular best practice to aid in its selection within a given context. In many cases, guidance based on experience is missing, and the gap between "what is a best practice?" and "how do I implement it?" addressed in detail or at all.

The Defense Acquisition University's knowledge management team has partnered with elements of the Office of the Secretary of Defense, to leverage research conducted by the Fraunhofer Center for Experimental Software Engineering (University of Maryland) and CSC to carefully design a new tool that achieves a Congressional mandate to improve software development, while at the same time meeting an emerging need in support of the larger DoD acquisition workforce.

The vision for this new system—the DoD Acquisition Best Practices Clearinghouse, or BPCh–is to provide an integrated set of processes, tools, and resources that enable users to share experiences and identify practices through evidence of practice effectiveness in environments like their own. On Feb. 29, that vision was finally realized with the public launch of BPCh.

Located at < https://bpch.dau.mil >, BPCh also completes a planned "system of systems" called the Acquisition Knowledge Management System (AKMS), which in addition to BPCh, is composed of the Acquisition Community Connection (ACC), the Acquisition Knowledge Sharing System (AKSS) and the ACQuire search site. Each of these systems are jointly sponsored and supported by the Office of the Under Secretary of Acquisition, Technology and Logistics and DAU.

BPCh is designed to help improve DoD's systems acquisition processes by allowing users to select and implement proven acquisition, development and systems engineering practices appropriate to their individual programmatic needs. Rather than recreate or repost information, BPCh is designed to link to as many existing resources as possible

that not only identify practices, but how to implement them.

BPCh adopts an evidence-based approach, in which supporting evidence and practices for programs undergo a system of recommendations and vetting by government, industrial and academic members comprising a "practice providers network." The value added that BPCh provides is that stored evidence is contextualized, guiding users to lessons and practices relevant to their program, type of problem, or specific environment, which helps them learn from practical results—both good and bad—and may be applied in their environment. BPCh users have immediate access (with suitable caveats) to source materials from which vetted recommendations will be built.

Vetted recommendations help form a practice's ultimate "maturity rating," indicated by a bronze, silver or gold rating in the system. Bronze-level practices are nominated by experts and user communities, and have received a preliminary check for applicability. While the detailed evaluations continue, the initial evidence is provided to aid users in making informed decisions. For example, a bronze-level practice would typically be simply identified in a practice listing, or minimally, consist of a few supporting details or minor evidence that describes what types of programs have used the practice and how it was applied..

Silver-level practices have been selected as promising enough to commission experts in the practice area to summarize key information. Users can see at a glance what they should know—and they can always see the source of the practice summary by following pointers to more in-depth practice evidence than is available at a bronze-level practice. A silver-level practice would also include an easy-to-read summary of key information prepared by an expert in the given practice area.

Gold-level practices have been through a rigorous analysis by a committee of experts in the practice area itself as well as by user representatives. Information on gold-level practices contains the best and widest-ranging experiences that are available to the user. Gold practices have a fully detailed summary and a vetting certification assuring that

Spotlight on DAU Learning Resources

the information has been checked for both accuracy and usefulness.

As with any knowledge-sharing tool, it is imperative that users always read a practice's entire summary because there may be examples where results for a project type are not ideal. Users should also bear in mind that additional and new evidence will continue to be added to existing practices recorded in BPCh, describing results in new contexts, with summaries updated as needed to reflect the new knowledge.

Visit BPCh at < https://bpch.dau.mil > for more information on this new tool, and if you have more questions please contact Mike Lambert, BPCh program manager, at michael.lambert@dau.mil, or John Hickok, DAU director of knowledge management, at john.hickok@dau.mil.

NEW CONTINGENCY CONTRACTING SIMULATION MODULE AVAILABLE

Say you're a newcomer to the military and the Department of Defense, placed in a contingency position. You know you will be deploying soon to support an exercise, simulating a warzone so you can get a better handle on how best to accomplish the contingency contracting mission. You have also been told by your training representative you are scheduled for the mandatory Defense Acquisition University Contingency Contracting course in six months.

Then, bang! You get the call to move out. In two weeks, you find yourself on the ground in a remote corner of the world. What's more, you have to purchase most supplies from the local economy. What language do they speak here? What currency is used? What are the local customs? How will you deal with U.S. contractors vying for some of the action?

Hopefully that won't happen to you, because you can take CLM 039 Contingency Contracting Simulation: Barda Bridge. This robust module steers the Contingency Contracting Officer (CCO) through pre-deployment, initial deployment to the warfighting zone and build-up phases, and concludes with a final major project—employing critical decision-making skills—before returning the CCO to the home station. Get all this in a two- to three-hour simulation and be better prepared for your role in supporting the warfighter as a CCO. For more information, contact the professor of Contract Business Management at cbm@dau.mil.

Defense Acquisition University Strategic Partnerships

Through the years, the Defense Acquisition University has established strategic partnerships with universities and colleges, defense-sector corporations, professional associations, other government agencies, and international organizations. Such partnerships with academic institutions allow DoD AT&L workforce members to transfer DAU course work toward college and university degrees and certificates. Partnerships with industry, professional societies, government agencies, and international organizations focus on sharing training materials, tools, modules, and training opportunities. A complete database of DAU Strategic Partnerships can be found at < **www.dau.mil/about-dau/partnerships.aspx** >. In March 2008 another partnership was added to the database:

DAU and **Aeronautical Systems Center** validated their mutual long-term commitment to provide improved learning support and knowledge management to the overall acquisition, technology, and logistics community within ASC with the signing of a memorandum of agreement on March 25, 2008. ASC Commander Lt. Gen. John L. "Jack" Hudson, USAF, and DAU Midwest Acting Dean Carl D. Hayden signed the Learning Organization Agreement at the ASC Headquarters, Wright-Patterson Air Force Base, Ohio. DAU Midwest has an established Learning Organization Agreement with the ASC Contract Pricing division, which was signed in December 2007. The existence of this agreement and the positive effects it had on the Contract Pricing division led to the ASC Acquisition Excellence Directorate pursuing an agreement for all of ASC. ASC and DAU will work together to jointly develop training and curriculum, such as an introductory class on Acquisition Program Baselines; increase access to each organization's knowledge management systems such as the AT&L Knowledge Sharing System site and ASC Acquisition Excellence site; share best practices; exchange information on relevant management policies, tools, processes, and databases; participate in joint research projects; and provide subject matter expert guest lecturers when available.

Career Development

AIR FORCE OFFICIALS INTRODUCE NEW CIVILIAN TRAINING VEHICLE

RANDOLPH AIR FORCE BASE, Texas—Without it, they are stuck in park. With it, however, they can rev up their future. With the introduction of the Standard Form 182, which was rolled out recently by the Office of Personnel Management, Air Force civilians now have an elite vehicle in their inventory that can effectively steer them toward their individual training goals.

Whether it's an advanced clerical course, a motor vehicle operating class, or one of hundreds of other critical courses and training conferences, the SF-182 is the mechanism that can put civilians' training needs in motion.

"The new form is a big improvement over the DD Form 1556, which we have been using for more than 25 years or so," said Hugh Lovelady, chief of the workforce effectiveness section with the Air Force Personnel Center at Randolph Air Force Base, Texas. "The SF-182 is clearer, more specific, easier to use, and should help our customers better identify and communicate their individual training needs."

Besides ease of use, another factor behind OPM mandating use of the form was to give government agencies the ability to enter training data in the Enterprise Human Resource Integration System, which is a tool initiated by OPM to maintain training data and personnel information.

"The SF-182's user interface helps Air Force training managers use that information more effectively," said Mike Hameroff, the Air Force's academic programs branch chief at the Pentagon. "With help from the Defense Civilian Personnel Data System, they can now track completed training using a variety of reporting and filtering tools."

At the base level, training offices currently accept the SF-182 in electronic and in hard-copy forms. Electronic routing, however, is preferred.

"Even though it has been an adjustment for people who were used to using the older 1556," said Patricia Lapsley, who serves as the civilian training manager for more than 5,000 civilian employees at four Air Force bases, "we do see the long-term potential with the new form's electronic signature process and drop-down code menus. We encourage units to submit SF-182s via e-mail so we can electronically sign the form. It speeds up the process."

The SF-182 can be downloaded at < www.opm.gov/forms/ >. Air Force members can use blocks in the basic information, course data, and cost and billing sections to meet their specific needs. Although not required, military members can also use the form to put their training goals on the fast track. Interested individuals can see their local training program manager for details.

OFFICIALS HIGHLIGHT TRAINING VISION TO INDUSTRY LEADERS
Tech. Sgt. Mike Hammond, USAF

RANDOLPH AIR FORCE BASE, Texas—More than 70 representatives from 44 corporations met March 6 to consider ways the civilian industry might partner with Air Education and Training Command officials to make the vision of the future of education and training a reality.

Attendees at the AETC Industry Forum came from all parts of the country and represented diverse slices of the corporate world—including the defense industry, information technology, and communications sectors.

Maj. Gen. Erwin F. "Erv" Lessel III, the AETC director of plans, programs, requirements, and analysis, hosted the event, sharing the command's vision of the future of education and training in the Air Force. Command officials recently published the AETC white paper, "On learning: The future of Air Force education and training," a vision for Air Force learning transformation.

Lessel said new airmen today are digital natives—people who have grown up in the digital age, accustomed to the technology available today. To illustrate that point, the general told those in attendance of a recent trip he made to Laughlin Air Force Base, Texas, for a pilot training graduation.

"The first graduate I saw had a patch—each class has a patch they design—and it looked like an iPod. At the top was a pilot with a helmet and mask on, and with earbuds on the side," the general said. "This is the kind of airmen we have coming into the Air Force today. They are thinking mobile technologies, podcasts, and video. We have to adapt to the way they learn."

The general stressed the potential impact of industry on the command's efforts to transform learning, noting that solutions must be flexible and adaptive.

"We need to be able to make quick changes when necessary—not long, drawn-out processes that result in the technology we select being obsolete by the time we implement the programs," Lessel said.

For their part, many attendees were interested in how far along the vision was in securing commitment at higher levels of the Air Force, and AETC officials have shown the briefing to senior leaders. Some industry representatives suggested working closely with other Services to develop a joint effort, while other attendees suggested creating a collaborative consortium from industry, academia, and government. Much discussion focused on getting the commitment needed to make headway on the various objectives they saw outlined.

Lessel highlighted several promising examples of the potential impact of live, virtual, and constructive training. One recent success involved a test at Luke Air Force Base, Ariz. By harnessing technology, four actual F-16 Fighting Falcons were joined by four additional virtual F-16s—two flown by pilots from a simulator on the ground and two that were computer-generated targets. Using the same images and displays, the effect was to have eight planes in an air-to-air engagement while only using four live aircraft.

"You can imagine where this goes in terms of savings and direct support sorties that could be flown in a simulator or computer-generated," Lessel said. "We've successfully demonstrated this and are looking at implementing it at Luke [AFB] and other fighter training bases as an Air Force Smart Operations [for the 21st century] initiative."

Addressing some of the suggestions and questions from the members of industry in attendance, Lessel said the white paper was a result of more than nine months of very hard work, but that those nine months were the easy part.

"The real challenge is implementation. How do we transform from where we are now to an Air Force v2.0 Learning Organization? In the white paper, we've outlined the important concepts for the future of education and training. The technology is here today and will continue to advance—it just needs to be applied using these concepts."

The general said the advantages are well worth pursuing.

"The focus of this vision is to harness the power of new technology and leverage the new skill sets airmen bring to the Air Force to build knowledge-enabled airmen," he said.

Hammond writes for Air Education and Training Command Public Affairs.

AIR FORCE MATERIEL COMMAND PUBLIC AFFAIRS (FEB. 22, 2008)
AIR FORCE CONTRACTING EXECUTIVE TO LEAD NEW HUMAN PERFORMANCE WING

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Air Force officials announced Feb. 21 that Thomas S. Wells, a member of the federal Senior Executive Service, will lead the new 711th Human Performance Wing at Wright-Patterson Air Force Base.

Wells comes to the new wing after serving as deputy director, then director of contracting at Headquarters Air Force Materiel Command since November 2003. Prior to coming to Wright-Patterson AFB, he served in a variety of leadership positions after joining the civil service in 1981.

"I am honored and excited to have the opportunity to lead what will be a unique, world-class organization," Wells said. "The wing will seek to enhance the human aspects of flight in the 21st century using the same kind of vigor and vision that the Wright Brothers first applied to the aero-mechanical aspects of flight here in Dayton some 100 years ago."

As director of the wing, Wells will oversee a new organization that combines the Air Force's human performance and related activities within a single organization. The wing's formation is the result of a 2005 Department of Defense Base Realignment and Closure, or BRAC, decision that directed realignment of functions from Brooks City-Base, Texas, and Mesa Research Site, Ariz., to Wright-Patterson AFB. It combines the Air Force Research Laboratory Human Effectiveness Directorate with several units from Brooks' 311th Human Systems Wing, including the U.S. Air Force School of Aerospace Medicine, Air Force Institute for Operational Health, and the 311th Performance Enhancement Directorate.

The wing will report to AFRL headquarters, located at Wright-Patterson AFB. However, the wing's work will reach beyond the Air Force and beyond the gates of Wright-Patterson AFB. It will complement the Navy Aerospace Medical Research Laboratory—which is relocating to Wright-Patterson AFB from Naval Air Station Pensacola,

Fla.—as well as surrounding universities and medical institutions.

The wing will function as a joint service center of excellence for human performance, and will model a university in its approach to education and training, research and development, and clinical evaluation and consultation.

Air Force officials estimate the wing could eventually create an additional 500 military and 350 civil service jobs by 2011, and a like number of contractor jobs at Wright-Patterson AFB and the surrounding area. In addition, the School of Aerospace Medicine will bring more than 5,000 students to the Dayton, Ohio, region annually.

The base will receive $332 million in construction dollars to build facilities that will house the new wing and other units coming to Wright-Patterson AFB as a result of BRAC. Total new construction will amount to one million square feet and represent the largest construction project on the base since World War II.

Plans are under way for a formal ceremony to activate the new wing but no date has been set.

AIR FORCE PRINT NEWS (APRIL 23, 2008)
AFPC, AFMC TEMPORARILY COLLABORATE TO STAFF AFMC VACANCIES
RANDOLPH AIR FORCE BASE, Texas—Air Force Personnel Center and Air Force Materiel Command officials are partnering to reduce the number of Air Force civilian personnel actions currently in the system. Four AFMC bases temporarily will assume responsibility for all AFMC civilian fill actions.

The large civilian centers at Hill, Robins, Tinker, and Wright-Patterson Air Force bases will assist AFPC by working all AFMC civilian actions until September 2009, when the responsibility will return to AFPC.

"We are carving out time to establish a flexible process that will allow for the ebb and flow of civilian actions in the Air Force," said Maj. Gen. K.C. McClain, AFPC commander. "New initiatives of the past 12 months, such as the implementation of a new staffing tool and National Security Personnel System, have culminated in a buildup of work."

AFPC specialists now fill positions using both General Schedule and NSPS processes and rules, which has significantly increased workload and the need for advanced training. Under NSPS, the classification system, compen-

sation structure, and staffing component varies drastically from GS, impacting AFPC's ability to swiftly fill civilian vacancies.

Since the four AFMC civilian centers still process civilian actions, they are equipped and staffed to absorb the temporary workload. This initiative will benefit other major commands within the Air Force by freeing up AFPC personnel to support their hiring requirements.

Air Force-wide, AFPC currently has more than 9,500 requests for personnel fill actions in process, with 500 to 700 new requests coming in weekly. AFMC employs 39 percent of the Air Force civilian population.

"This is one of many initiatives AFPC is taking to reduce the number of vacancies," said McClain. "We fully understand the mission impact and appreciate the support, not only from AFMC but from all major commands, in working this critical issue."

FEDERAL ACQUISITION INTERN COALITION
The Federal Acquisition Institute is leading a new government-wide effort to raise the visibility of contracting as a career of choice in the federal government and leverage existing intern programs available across the federal spectrum. This new effort provides a facilitated environment all agencies can use to share information, launch new recruiting initiatives, and create a focal point for creating interest in acquisition careers across the government. The Federal Acquisition Intern Coalition is a combined effort of federal agencies to encourage people to consider careers in federal government procurement. The FAIC represents partnerships among FAI, the Office of Management and Budget, and the Office of Personnel Management. The FAIC's goal is to attract individuals who want to make strategic decisions and be a part of the world's largest buyer program—the U.S. Government. FAI has created a page on < www.FAI.gov/careers > that provides more information about the FAIC.

Conferences, Workshops & Symposia

THE 4TH ANNUAL NATIONAL VETERAN SMALL BUSINESS CONFERENCE AND EXPO

The Veteran Small Business Federal Interagency Council is proud to present the 4th Annual National Veteran Small Business Conference and Expo. This year's conference will be held at Caesars Palace, Las Vegas, Nev., July 7-10, 2008. The conference is open to both government and non-government personnel. Conference topics will cover:

- Updates on veteran small business legislation
- Information on veteran small business programs throughout the federal government
- Networking with key federal government procurement decision makers
- Getting on the General Services Administration schedule
- Effective business development strategies and tactics
- Job sourcing
- Finance strategies for veteran-owned businesses
- Capacity and capability building through joint ventures and teaming
- Dynamic plenary and breakout sessions focused on achieving success with the federal and state government
- Strategies for increasing business opportunities
- Cutting-edge information on strategic procurement trends.

For more information, please call the conference hotline at 703-695-3220 or send an e-mail to info@ nationalveteransconference.com.

45TH ANNUAL AEROSPACE AND DEFENSE CONTRACT MANAGEMENT CONFERENCE

The 45th Annual Aerospace and Defense Contract Management Conference will be held Aug. 4-5, 2008, at the Hyatt Regency Orange County in Garden Grove, Calif. This year, the conference will feature top-level panel discussions in the areas of current legislation and government trends that affect all levels of contracting. Sessions will be led by industry leaders, and participants will have the opportunity to explore a variety of educational topics and earn up to 12 hours of continuing education credit.

For more information, contact Michelle Bourke, director of meetings, at 571-382-1135 or bourke@ncmahq. org, or Rita Rose, meeting planner, at 571-382-1108 or rose@ncmahq.org. Watch the National Contract Management Association Web site at < www.ncmahq.org/ meetings/ADC08/ > for updated scheduling, speakers, special events, and more.

THE INTERNATIONAL SOCIETY OF LOGISTICS—SOLE 2008

The International Society of Logistics (SOLE) presents the 43rd Annual International Logistics Conference and Exhibition at the Caribe Royale Orlando, Orlando, Fla., Aug. 17-21, 2008. Representatives from government, industry, business, and academia will be in attendance. With a conference theme of "Logistics Transformation and the Global Economy," the symposium will, from both strategic and operational perspectives, examine the issues and relationships surrounding logistics transformation. Participants will focus on the role of logistics, both as a driver of economic security within the global economy and as a key enabler to the achievement of collaborative information exchange, human capital development, information transparency, asset visibility, industrial cohesiveness and productivity, penetrating global market share, technology capitalization, operating footprint maximization, inter/intra-enterprise integration, and globalization.

For additional information, contact John Erb, SOLE 2008 deputy chair, at 703-246-0756 or john.erb@gdit.com, or contact SOLE Headquarters at 301-459-8446.

UNITED STATES SCHEDULED TO HOST THE 2008 NATO STANDARDIZATION CONFERENCE

The North Atlantic Treaty Organization (NATO) Standardization Conference will be held Sept. 15-18, 2008, in the Washington D.C., metropolitan area. In conjunction with the NATO Standardization Agency and Allied Command Transformation, the United States will co-host this exclusive conference, which brings together practitioners from North America and Europe to present new approaches and ideas for standardization within NATO, to foster integration of the latest developments in allied transformation, and to facilitate the practical application of standardization in support of the NATO Alliance.

The content that will be presented at this conference is most suitable for Department of Defense military personnel and civilian employees, as well as DoD contractor personnel from NATO member countries who are required to have a fundamental knowledge of current and future NATO standardization activities. The conference is also of benefit to representatives from civilian standards developers who would like to gain more knowledge of standardization as it relates to future cooperative agreements with NATO.

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Attendance is limited and may be subject to eligibility requirements. For information about registration, registration fees, and hotel accommodations, contact the Defense Standardization Program Office at 703-767-6872 or visit < www.dla.dsp.mil >.

ARMY NEWS SERVICE (FEB. 13, 2008)
ARMY DEMONSTRATES TRAINING TOOLS TO CONGRESS

J.D. Leipold

WASHINGTON—Several of the Army's latest techno training tools were displayed on Capitol Hill, including a life-size medical mannequin that can blink, tear, salivate, and even show allergic reactions; and a real-time language translator soldiers wear on their wrist that will speak for them.

Sponsored by Program Executive Office for Simulation, Training and Instrumentation, the closed-to-the-public demonstrations were open to members of Congress and their staffs to experience first-hand interactive military simulations and training devices that currently prepare warfighters for their missions in Iraq and Afghanistan.

Part of the Medical Simulation Training Center—the life-size, full-weight human mannequin—was a highlight of the event. This combat casualty care instruction mannequin represented the Army's standardized medical training program and is intended to reduce the die-of-wounds rate on the battlefield by providing soldiers with skills to save the wounded.

Through hands-on instruction, soldiers practice intubations, tracheotomies, inserting catheters, applying splints, treating open chest wounds, and inserting intravenous solutions.

Maj. Dave Thompson, assistant product manager for the medical simulation training center program at PEO-STRI said the virtual patient is tethered to a power and fluid

In a field demo at the Joint Readiness Training Center, Fort Polk, La., a soldier demonstrates how the Vcommunicator iPod-sized translator device fits on the wrist but doesn't interfere with his weapon.   Photo courtesy Vcom 3D

supply, which is what allows it to breathe, bleed, and to react to the medical assistance being rendered.

The drawback to this "bleed-breathe" mannequin is that training on it is limited to classrooms. During urban field training, such as assaulting a building, dead-weight mannequins are used so when a soldier comes across a "casualty," he transports it back to the aid station where he looks up at the instructor for guidance and then proceeds with the medical attention.

"We're working with our developmental partners to develop a tetherless capability, which will be a self-contained mannequin that we envision can be used for extraction in field training," said Thompson. "That would make it even more realistic, so that a medic or combat lifesaver actually has to reach back and check on that patient during the extraction phase."

While the untethered mannequin is in development, all soldiers will experience the tethered mannequin at one of 18 centers worldwide and become combat lifesaver-certified.

"The surgeon general has determined that what is extremely important on the battlefield is the platinum 10 minutes after wounding—the combat lifesaver can respond to that," Thompson said. "If you think about a platoon that only has one medic and that medic is to handle that entire platoon of soldiers, but if you can train infantrymen, artillerymen, MPs to do that initial lifesaving, then you can augment what that medic can do tenfold."

Aiding Well-rounded Communication

While the medical training plays out when soldiers are wounded or hurt in combat zones, the Vcommunicator

Mobile is assisting soldiers with communication efforts and aiding them to engage with Iraqi and Afghani populations as soldiers conduct operations.

Vcommunicator Mobile is a one-way translation device configured from an Apple iPod personal entertainment system. It's a multi-functional, multimedia language and culture learning tool strapped onto the wrist that provides soldiers the ability to converse in Arabic, Kurdish, Dari, and Pashtu while also portraying correct cultural mannerisms, and it may be used for training during downtime.

Presently, there are roughly 300 iPod Nano- or classic-sized Vcommunicators in theater being used by the 10th Mountain Division's 1st and 4th Brigade Combat Teams at one per eight soldiers.

Ernie Bright, operations manager for Vcom 3D and builder of the device, said the company first started fielding the units in October after training demos at the Joint Readiness Training Center at Fort Polk, La., where the communicator was put to the test with real native speakers in village scenarios. "We took feedback from the soldiers and started incorporating that into the device," he said.

The largest photovoltaic solar power plant in the United States is becoming a reality at Nellis Air Force Base, Nev. The solar arrays can produce 15 megawatts of power for the Air Force.
U.S. Air Force photo by Paul Ridgway

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Strapped onto the wrist, the small digital screen can display a 3-D avatar that comes up as a military character, which then shows the soldier how to speak one of the four languages phonetically and how to make the appropriate matching gestures. The soldier can also display the written language and have the dialogue transmitted out loud for him. If the soldiers are seeking someone, a photo can be displayed.

Soldiers may choose from a list of 20 missions, ranging from basic conversations covering a wide range of missions, from raids to medical assistance to detainee processing.

"This device provides soldiers with phrases like 'Get down on the ground,' which is a rough phrase; but there are also phrases like, 'May I give your children these gifts?'" Bright said. He said the device helps soldiers be more well-rounded when communicating on missions.

AIR FORCE PRINT NEWS (MARCH 5, 2008)
ENERGY FORUM SHOWCASES ENVIRON-MENTAL ACHIEVEMENTS

ALEXANDRIA, Va.—Approximately 500 Air Force, government, and industry leaders gathered to discuss current and future energy and environmental programs during the Service's second annual Energy Forum March 3. The event was divided up into numerous forums with topics ranging from facility energy management to alternative fuels to the possibility of hosting nuclear power plants at Air Force installations in the future.

Representatives from both military and industry organizations sat on panels, facilitating discussion among the attendees.

"[The forum] is an excellent opportunity for industry to meet and talk with senior government officials about one of the most important issues facing the United States military and our great nation," said Secretary of the Air Force Michael W. Wynne. "We are exploring how to capitalize on the knowledge and creativity of the industry to develop new energy projects on our bases."

"We've found that we share many of the same challenges [as major industry businesses do] in maintaining our operational or primary mission edge while balancing investment in infrastructure," said Bill Anderson, the assistant secretary of the Air Force for installations, environment and logistics, as well as the Air Force's senior energy executive.

Such similarities made it easy for all participants to compare lessons learned and exchange ideas as to how to incorporate energy and environmentally sound changes and processes at all organizational levels.

"We are transforming our business processes, infrastructure, and technology to enable us to operate our installations within reduced funding levels," Anderson said.

Many of the Air Force's recent accomplishments regarding energy and the environment were highlighted at the event, such as completing C-17 Globemaster III and B-52 Stratofortress flights on synthetic fuel and flicking the switch on Nellis Air Force Base's solar panel field in Nevada, which is North America's largest solar photovoltaic power system.

Col. Paul E. Funk II (center), commander, 1st Brigade Combat Team, 1st Cavalry Division, talks to members of the Army Science Board in a meeting at Fort Hood, Texas, Feb. 27 about some of his brigade's achievements while deployed to Operation Iraqi Freedom Rotation 06-08.
Photo by Staff Sgt. Jon Cupp, USA

"These efforts are the means by which we are meeting the enormous challenges of today and the foreseeable future, and they ultimately enable us to sustain and modernize the world's best air, space, and cyberspace force," Anderson said. "These transformational changes will help us maintain our focus on our Air Force's three overarching priorities: Winning today's fight, taking care of our people, and preparing for tomorrow's challenges."

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ARMY SCIENCE BOARD MEETS WITH IRONHORSE BRIGADE TO DISCUSS IRAQ

Staff Sgt. Jon Cupp, USA

FORT HOOD, Texas—Members of the Army Science Board—an advisory panel of experts from various military, technical, and scientific backgrounds—met with senior leadership from the 1st Brigade Combat Team, 1st Cavalry Division Feb. 27 in a series of meetings to discuss lessons learned from the brigade's recent deployment, Operation Iraqi Freedom Rotation 06-08. The brigade returned from Iraq in January.

According to Maj. John Garcia, information operations officer for the Ironhorse Brigade, the Army Science Board is made up of unpaid volunteers and is led by members who were formerly affiliated with the military to include a few retired Army generals. "[The advisory board] helps to better improve operations in Iraq by assisting Army components, such as brigades, in planning future operations," said Garcia.

Through studies of operations, the board examines how well and to what effect brigades utilize such things as their computer software tools for information sharing, intelligence, and other technical aspects of combat operations. They also examine how well brigades and other echelons use joint capabilities to achieve their mission.

The board talks to senior leaders about what challenges soldiers face when using certain tools such as new software, what worked well, and if the equipment worked as it was intended.

During their meeting, Army Science Board members also examined how well the brigade brought the diplomatic, information, military, and economic elements of national power to bear against the enemy.

"They have a keen ear and work exclusively with a lot of senior Department of Defense Officials—they have a lot of interaction with people like Vice Chief of Staff of the Army Gen. Richard Cody," said Hendersonville, N.C. native Maj. Scott Kirkpatrick, an Ironhorse Brigade operations planner. "They will take all their input and lessons learned from the study, consolidate it, and then present it to Gen. Cody."

In their studies of deployments, the Army Science Board examines a deployment from the very beginning to include pre-deployment training to the end of the rotation. "They might make recommendations saying that we may

need more training in some areas or suggestions of more organization in other areas so that we can have success in future operations downrange," Kirkpatrick added.

Along with hearing from the Ironhorse Brigade senior leadership, board members also received input from the brigade's battalion commanders, company commanders, and some platoon sergeants.

Those who attended the meeting said it was a worthwhile experience that will definitely help to improve future deployments to Iraq. "The meetings went very well, and there was good productive interaction between the board and the members of the brigade staff," said Kirkpatrick. "Some of the most important comments came from company commanders and the platoon sergeants who made a lot of impact with some meaningful comments."

"It was a great opportunity for everyone to relay their experiences," said Maj. John Garcia, the 1st Brigade Combat Team's information operations officer. "The Army Science Board members are very well in tune with what's going on in the Army, and their feedback and recommendations will prove invaluable for future operations."

Cupp writes for 1st Brigade Combat Team, 1st Cavalry Division Public Affairs.

FCS LAND WARRIOR: VALUE ADDED TO ARMY

Jacqueline M. Hames

WASHINGTON—The future of Army combat technology was demonstrated on Capitol Hill, exhibiting several systems that enable soldiers to fight better, faster, and most importantly, safer.

The Future Combat Systems Brigade Combat Team presented several static displays of future Army technology and provided a live demonstration of the Land Warrior system and key corresponding equipment: Urban Unattended Ground Sensors, Small Unmanned Ground Vehicles, and Class I Unmanned Aerial Vehicles.

The demonstration highlighted the ability of LW to provide more survivability to the soldier and its capability to be rapidly deployed, Col. Patrick L. Fetterman explained. As part of FCS overall, the demonstration explained how new systems would diminish the gaps in current combat technology through providing situational awareness previously unachieved.

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Land Warrior is a modular fighting system using state-of-the-art computer, communications, and global positioning technologies to digitally link soldiers on the battlefield. The system is carried like a backpack and has a helmet-mounted display used to see and send text messages, maps, and imagery.

Command Sgt. Maj. Phil Pich, the primary presenter for the LW demonstration, said the four distinct advantages of LW were situational awareness, voice and text messaging capability, maps and imagery, and the ability to change graphics on the move.

Pich indicated colored map icons on a television screen representing a soldier's helmet-mounted display. These icons are used to pinpoint enemy location or indicate where friendly soldiers and equipment are positioned in real time. Information on the positions of friend and enemy alike help the soldier to perform the mission better, faster, and with minimal risk to the individual.

"[LW] gives us situational awareness that the enemy does not have, so we can be much faster than the enemy and capture or kill him," Pich said. "This system has made us so fast on the battlefield that my units—attached to other organizations that are out there—they have to tell us to stop and slow down."

The use of a Class I UAV enables the soldier to scout areas such as rooftops or to see inside windows of suspicious cars without putting individuals in danger. U-UGS are used for situational awareness like UAVs, as well as perimeter defense, surveillance, and target acquisition. SUGVs, or iRobots, are capable of military operations in urban terrain, sewers, tunnels, and caves.

All of these mechanical devices are linked with LW, providing the soldier a live feed of combat information.

"We always know where we're at, we always know where we are going," Sgt. Curtis Pitman said. Pitman is a combat veteran who used LW on the battlefield and praises the system as a high-value asset.

"As far as the fog of war goes, this is the most important tool we have," said Staff Sgt. James Young, also a combat veteran experienced with the LW system. LW is durable, extremely easy to use, and can be learned in less than 24 hours. "These guys over here, talking about Land Warrior, are guys who have worn it for 14 months in combat. They are saying, repetitively, [that] this is a huge value added to us. We want it, we use it, we save lives with it," Fetterman said.

Other major technologies and equipment with displays were the Non-Line-of-Sight Launch System, Manned Ground Vehicles, Non-Line-of-Sight Cannon, and the Multifunctional Utility/Logistics and Equipment, or MULE vehicles.

Command Sgt. Maj. Phil Pich indicates map icons representing equipment and target positions in the field. The map and icons appear in the soldier's helmet-mounted display as part of the Land Warrior system and provide situational awareness. *Photo by C. Todd Lopez*

For more information, see < www.fcs.army.mil >.

Acquisition & Logistics Excellence

FROM THE OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY

Shay D. Assad, director, Defense Procurement, Acquisition Policy, and Strategic Sourcing, recently received the highest honor bestowed on non-Office of the Inspector General employees—the Department of Defense Inspector General Joseph H. Sherick Award. The 19th Annual Honorary Awards ceremony took place March 18 at the Crystal Gateway Marriot in Crystal City. This award is normally made to one individual on an annual basis. However, Inspector General Claude Kicklighter decided that it was appropriate to give two awards to two individuals: Under Secretary of Defense (Comptroller) Tina Jonas and Assad. The award is granted annually to individuals who distinguish themselves by exceptional service or contributions of the broadest scope to the Office of the Inspector General.

Darlene Mosser-Kerner of Systems & Software Engineering was recently awarded the Office of the Secretary of Defense Civilian Tester of the Year Award at the National Defense Industrial Association Test & Evaluation (NDIA T&E) Conference. Mosser-Kerner was recognized for leadership, innovation, analytical skills, and demonstrated abilities; and specifically recognized for leading key efforts and for reinvigoration of developmental test and evaluation throughout DoD.

Linda Oliver, deputy director, Office of Small Business Programs, was awarded the Public Advocate of the Year Award at the Reservation Economic Summit and American Indian Business Trade Fair 2008. Oliver received the Public Advocate of the Year Award for outstanding service involving Native American Indian small businesses.

NAVY NEWSSTAND (FEB. 14, 2008)
NSWC CRANE EMPLOYEE RECEIVES PRESTIGIOUS WEAPONS AWARD

Mary Camacho

CRANE, Ind.—The Joint and Special Operations Programs program manager at Crane Division, Naval Surface Warfare Center, has received an award for his work supporting the warfighter and U.S. Special Operations Command Feb. 4.

Troy L. Smith was the recipient of the 2008 George M. Chinn Award for his 22 years of service in development and improvement of small arms weapons and ammunition for the special operations forces.

The award will be officially presented at the National Defense Industrial Association Joint Services Small Arms Systems Annual Symposium Exposition and Firing Demonstration on May 20, 2008, in Dallas.

Smith, whose work supports U.S. Special Operations Command Program Executive Officer, SOF Warrior, said he was extremely humbled to have been nominated, putting his name alongside previous winners including AR-15 designer Eugene Stoner, C. Reed Knight, and Ronnie Barrett.

"I was truly glad, as I believe this award shows not only my contributions but the overall efforts of the Crane 'team' and its contractors, the U.S. Navy, and of course USSOCOM," said Smith. "Over the years, these people along with the U.S. Army, U.S. Marine Corps, and all of industry, have supported me to the greatest extent to provide the best quality products to USSOCOM."

"I commend Mr. Smith and the rest of the Crane Special Missions team for their dedication to the Special Operations Forces," said Naval Surface Warfare Center Crane Commanding Officer Capt. Mark Welsh. "They are putting technical solutions in the hands of the warfighter and in the process are ensuring safer missions and saving lives."

Smith currently serves as the program manager for the SOF Combat Assault Rifle (SCAR) program, which is attempting to field the first new U.S. rifle and add-on grenade launcher since the 1960s. Smith said the SCAR program is an evolutionary program involving a 40mm Enhanced Grenade Launcher Module as well as a family of 5.56mm (SCAR Light) and 7.62mm (SCAR Heavy) weapons in convertible carbine, rifle and sniper variants.

The Chinn award, named in honor of Lt. Col. George Morgan Chinn (1902-1987), is presented annually to honor a government or industry individual who, in the opinion of the Small Arms division executive board, has made "significant contributions to the field of small arms and/or infantry weapons systems." The nominee's contribution must include advancements that benefit the warfighting or general military capabilities of the United States.

Camacho writes for Naval Surface Warfare Center Public Affairs.

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ARMY AWARDS ENVIRONMENTAL STEWARDSHIP

Army programs making strides in endangered species protection, historic preservation, waste reduction, environmental cleanup, and pollution prevention earned top-level leadership recognition as the secretary of the Army announced Feb. 14 the winners of the Army's highest honor for environmental stewardship.

Five installations, three teams, and one individual will receive a 2007 Secretary of the Army Environmental Award for their achievements. This year's winning accomplishments include: restoring and maintaining the habitat of over one thousand animal and plant species; conserving water and controlling erosion to reduce the harmful effect eroded sediment has on endangered species; conducting extensive community outreach to share the history of archeological sites located on Army property; and using technology to clean and re-use soil for military construction projects.

Tad Davis, deputy assistant secretary of the Army for environment, safety, and occupational health is confident that the hard work the Army dedicates to sustainability and environmental stewardship will reap benefits for generations to come. "These Army environmental awardees are examples of how the Army is transforming its business and environmental practices to bridge today's requirements with tomorrow's needs. The awardees have improved installation efficiency and effectiveness, and therefore have helped assure operational capability for our soldiers and an improved quality of life for their families and surrounding communities."

The winners of the fiscal year 2007 Secretary of the Army Environmental Awards are:
- Camp San Luis Obispo, California Army National Guard—a Natural Resources Conservation, Small Installation
- Aviation Classification Repair Activity Depot, Connecticut Army National Guard—Pollution Prevention, Industrial Installation
- U.S. Army Garrison Daegu, Korea—Environmental Quality, Team
- Fort Hood, Texas—Environmental Quality, Non-Industrial Installation
- Fort Ruger, Hawaii Army National Guard—Environmental Restoration, Installation
- James G. Arnold, Oregon Army National Guard—Environmental Restoration, Individual
- Pennsylvania Army National Guard—Natural Resources Conservation, Team
- Redstone Arsenal, Ala.—Cultural Resources Management, Installation
- The M115A2 and M116A1 Simulator Perchlorate Replacement Team, Project Manager Close Combat Systems (PM CSS), U.S. Army Research, Development and Engineering Command (RDECOM)—Excellence in Weapon System Acquisition, Team

The Secretary of the Army Environmental Awards represent the highest honor in the field of environmental science conferred by the Army. For more information, contact Robert DiMichele, Public Affairs Officer, U.S. Army Environmental Command, 410-436-2556. For details about the fiscal year 2007 Secretary of the Army Environmental Awards recipients, visit the U.S. Army Environmental Command's Web site at < http://aec.army.mil/ >.

CNO RECOGNIZES BLACK ENGINEER OF THE YEAR

Mass Communications Specialist 2nd Class (SW) Rebekah Blowers, USN

BALTIMORE—Chief of Naval Operations Adm. Gary Roughead presented the Black Engineer of the Year Award in Career Achievement in Government on Feb. 16 to Cmdr. Richard Bryant.

Roughead said awards such as these showcase the talents and diversity in today's Navy. "It recognizes us as an organization that values diversity, that puts a premium on diversity, but it also shows the excellence that exists within the Navy," Roughead said. "I believe it just speaks volumes about who we are and what we stand for."

Roughead added that the Black Engineer of the Year awards are very prestigious, and those receiving the awards have historically risen to the most senior ranks of the Navy.

"I believe it inspires those who serve today and will inspire those who serve tomorrow," Roughead said. "The Navy affords limitless opportunities to our people, whether it's an education or experiences or assignments."

When asked for advice he would offer to those who want to be successful, Roughead urged all sailors to seize every opportunity. He also reminded leaders at every level to guide their junior sailors.

Acquisition & Logistics Excellence

"Most importantly, reach down and share your experiences and your mentorship with those coming behind you. That is the most important thing to do," Roughead said.

The Black Engineer of the Year awards honor innovators who demonstrate excellence in science, engineering, or technology; leadership in workplaces and communities; outstanding work as role models and mentors; and commitment to recruiting and retaining minorities in the nation's science and technology enterprises.

Blowers writes for Chief of Naval Operations Public Affairs.

NAVY NEWSSTAND (FEB. 19, 2008)
NAVFAC SOUTHWEST OPERATIONS OFFICER RECEIVES 2008 BLACK ENGINEER OF THE YEAR AWARD
Lee H. Saunders

SAN DIEGO—**Capt. Julius "Jake" Washington**, operations officer for Naval Facilities Engineering Command Southwest in San Diego, and prospective commanding officer of NAVFAC Midwest in Great Lakes, Ill., received the 2008 Professional Achievement in Government Award at the 22nd Annual Black Engineer of the Year Awards ceremony, Feb. 16, at the Baltimore Convention Center in Maryland.

"When I look at the caliber of professionals from government and the private sector who have been chosen for this prestigious award, I am humbled to be in their company," said Washington.

"Capt. Washington's selection as Black Engineer of the Year is a result of his significant achievements in engineering and his efforts serving as a role model for young professionals in the engineering field," said Capt. Steve Wirsching, commanding officer of NAVFAC Southwest. "This award recognizes Captain Washington's superb contributions to the government and the community during his stellar career."

Washington serves as the operations officer for the largest facilities engineering command in the Navy, with leadership responsibilities impacting 2,700 civilian and military personnel who provide support to 370,000 military and civilian personnel at 31 Navy, Marine Corps, and Air Force installations throughout the Southwestern United States, executing over $2 billion of planning, real estate, environmental, construction, and maintenance services annually.

"Capt. Washington is an exceptional leader and professional who has left a lasting imprint on the people he has influenced and the facilities he constructed," said Wirsching.

Washington is the Navy's intern architect development program coordinator with the responsibility of mentoring more than 100 Civil Engineer Corps architect interns. He has also devoted many hours helping the career development of several young professionals in the military, civil service, and private sector achieve their professional licenses.

"This career recognition award validates my belief in example and mentorship and gives me a sense of satisfaction that I have had a positive impact on people throughout my 24-year naval career," said Washington. "It also serves to refocus my commitment to continue to strive to live up to this responsibility."

Saunders writes for Naval Facilities Engineering Command Southwest Public Affairs.

JOINT DEFENSE LOGISTICS AGENCY, U.S. TRANSPORTATION COMMAND, GENERAL SERVICES ADMINISTRATION PRESS RELEASE (FEB. 26, 2008)
GOVERNMENT AGENCIES WORK TO IMPROVE SUPPLY CHAIN MANAGEMENT

SCOTT AIR FORCE BASE, Ill.—U.S. Transportation Command, the Defense Logistics Agency, and U.S. General Services Administration have established a formal partnership designed to improve supply chain management for U.S. armed forces.

Leaders from the three agencies recently signed an agreement establishing a customer support partnership among the three organizations that will result in improved support to the warfighter.

As global supply chain integration evolves, USTRANSCOM, DLA, and GSA commit to provide best value supplies and services in a timely manner.

The agreement establishes an Executive Steering Committee to oversee initiatives that assure each organization's performance aligns with mutually shared expectations. The ESC will be made up of executives from all three organizations that will establish and direct joint working groups, to ensure the goals and objectives for the overall initiatives are followed.

"This agreement provides us with an excellent opportunity to better align supply chain management," said Air Force Gen. Norton A. Schwartz, USTRANSCOM commander, "and solidify interagency partnerships in support of the warfighter."

The partnership establishes methods for each agency to combine performance measurements, collaborate across organizational boundaries and, most importantly, achieve the operational effect of adopting shared efficiencies in delivering goods and services to the warfighter.

"The cooperative agreement extends our commitment to achieve supply chain excellence with our national partners," said Army Lt. Gen. Robert T. Dail, director, DLA. "This guides us—as partners—to further improve operations, information sharing, and integrated supply chain planning."

The agreement, which outlines specific responsibilities for each agency, identifies the following goals of the partnership:
- Improve operations, information sharing, and integrated supply chain operations planning
- Adopt shared processes to gain efficiencies in the delivery of goods and services to the warfighter
- Determine information technology requirements to enhance warfighter support capabilities and implement solutions approved by the ESC
- Develop shared customer relationship activities and initiatives
- Share supply chain and distribution business intelligence and current events information regarding ongoing or potential initiatives and innovations
- Collaborate across boundaries of the organizations
- Seek partnering opportunities whenever the opportunity arises.

"This arrangement demonstrates how DoD's strong partnership with GSA is ensuring taxpayer savings through best value strategies," said Federal Acquisition Service Commissioner Jim Williams. "It is another great example of how the FAS is partnering with DoD to optimize supply solutions for the warfighter."

DEPARTMENT OF DEFENSE NEWS
RELEASE (FEB. 20, 2008)
DOD ANNOUNCES WINNERS OF ANNUAL MODELING AND SIMULATION AWARDS FOR EXCELLENCE

The Department of Defense announced today that seven winners have been selected for the 10th annual Depart-ment of Defense Modeling and Simulation Awards for Excellence. The annual awards recognize DoD people and organizations for achievement in the development of modeling and simulation capabilities, and the improvement of military capability, readiness, or mission effectiveness. The winners are as follows:

- The Army's Battle Command Training Branch, Directorate of Plans, Training, Mobilization, and Security, Headquarters, III Corps at Fort Hood, Texas, received an award for innovative uses of simulation in support of battle command training for deploying soldiers and units of III Corps' "Hub" and its "Spokes" at Forts Carson, Riley, Sill, and Bliss.
- The Army's Operational Test Command and the Research, Development, and Engineering Command at Fort Hood, Texas, received an award for collaboration between two Army commands with two very different missions, but with a common desire to provide simulation capabilities in support of the Army's acquisition efforts.
- The Navy's Verification, Validation, and Accreditation Template Team at the Space and Naval Warfare Systems Center at San Diego, Calif., received an award for developing and delivering a standardized template for documenting verification, validation, and accreditation for models and simulations.
- The Air Force's Homeland Air and Cruise Missile Defense Analysis Team in Washington, D.C., received an award for providing analysis culminating in a U.S. homeland air defense investment strategy.
- The Air Force's DoD Air and Space Natural Environmental Executive Agent Team in Washington, D.C., received an award for its contributions to the strategic vision for DoD modeling and simulation.
- The Air Force's 705th Combat Training Squadron at Kirtland Air Force Base, N.M., which operates the Distributed Mission Operations Center, received an award for making significant advancements in exercise delivery and combat training.
- Navy Cmdr. Brett M. Pierson, Joint Staff, J-8 in Washington, D.C., received an individual award for leading an effort to develop a system dynamics-based model of counterinsurgency that provides insights into irregular warfare.

The awards will be presented to winners May 11 at the DoD Modeling and Simulation Conference in Orlando, Fla.

Acquisition & Logistics Excellence

PMA-265 WINS FOURTH CNO ENVIRON-MENTAL EXCELLENCE IN WEAPON SYS-TEM ACQUISITION TEAM AWARD

PATUXENT RIVER, Md.—The F/A-18 and EA-18G Program Office, PMA-265, acquisition team learned Feb. 26 they were the recipients of the Chief of Naval Operations Environmental Awards for Environmental Excellence. This is the fourth consecutive time PMA-265 has won this award.

This achievement reflects the sustained level of performance and leadership that has characterized the environmental stewardship of PMA-265 since the awards inception, noted Mike Rudy, program environmental, safety and occupational health (ESOH) manager.

Rear Adm. Larry Rice, director of the CNO Environmental Readiness Division, congratulated all of the winners in a naval message. "This annual competition recognizes the Navy's environmental superstars, and I congratulate all of the winners. Your environmental stewardship is an integral part of our Navy's operations and is critical in preserving our ability to ensure our operating forces are trained and ready to perform their missions. Bravo Zulu."

PMA-265 manages the variants and subsystems of the F/A-18 Hornet and Super Hornet and EA-18G Growler. As part of its mission, the program must communicate and balance ESOH concerns with operational needs.

PMA-265 was one of the Navy's first acquisition programs to comply with the under secretary of defense for acquisition, technology and logistics' March 2007 ESOH risk acceptance policy.

This was accomplished when it formally acknowledged the long-standing occupational safety risk jet aircraft noise imposed on personnel, explained Rudy. PMA-265's eight-year sponsorship and participation in various technology projects illustrate its commitment to reducing aircraft noise and air emissions.

Examples of PMA-265's commitment are reflected in recent tests of General Electric Global Research and Aviation's fluidic and mechanical chevron noise reduction technologies that achieved an approximate 2.5-decibel reduction in engine noise with no thrust impact over much of the frequency range.

Another example is the Trapped Vortex Combustor technology initiative that is aimed at reducing engine air emission levels used in F/A-18 variants while also achieving significant fuel consumption reductions. Tests conducted in April 2007 demonstrated a 42-percent reduction in high power nitrogen oxide emissions compared to the production engine.

PMA-265's carrier-based tactical aircraft program is the first to have more than 100,000 Class A mishap-free flight hours. In fiscal year 2007, the F/A-18E/F reinforced its safety record by completing 116,436 Class A mishap-free flight hours.

PMA-265 and its industry partners led their aircraft and engine suppliers' manufacturing facilities to impressive reductions of pollution and industrial waste. For example, Boeing decreased hazardous waste production 41 percent in 2005 and 21 percent in 2006. Historically, GE Aviation annually generated more than 2,000,000 pounds of hazardous waste at its facility in Lynn, Mass. But, in 2006, it produced only 137,000 pounds, a 93-percent reduction from prior years.

The CNO Environmental Awards ceremony is scheduled for June 3 at the U.S. Navy Memorial and Naval Heritage Center in Washington, D.C.

E-2D PROGRAM RECEIVES PRESTIGIOUS LAUREATE

WASHINGTON—The Advanced Hawkeye program received *Aviation Week and Space Technology* magazine's top honor during a black-tie event March 4 in Washington, D.C., when the E-2D team was honored with a 2008 Laureate award.

"Looking around the room at the teams and attendees present, it is a privilege to have the Advanced Hawkeye program measured together with such excellence," said Capt. Randy Mahr, Advanced Hawkeye program manager, accepting the award on behalf of the Navy and Team Hawkeye. "We are proud to be this year's recipient. The teamwork on this program has been remarkable."

The AW&ST Laureates began 51 years ago as a vehicle to honor people who epitomize the values and visions of the global aerospace industry. Team Hawkeye was one of three nominees in the 2008 military category.

Acquisition & Logistics Excellence

"The intent is to recognize talent, hard work, and ambitious leadership in the field. It is a big deal, because the winners are truly the best of the best and have made a large difference for aviation as a whole," said Dave Fulghum, AW&ST senior military writer.

In August 2007, the first Advanced Hawkeye flew on a date scheduled four years earlier. Today, there are two aircraft in flight test and a third and fourth on the production line. The digital, rotating electronically scanned array radar is operating in the lab and is flying in the E-2D and NC-130 test bed.

"The Hawkeye role has greatly expanded over the past 40-plus years," said Mahr. "We have incrementally improved the aircraft's capabilities and stayed a step ahead of the threat. Over the past decade, technology made a monumental leap. Now, just as we use computers and cell phones in ways not originally envisioned, I believe the next generation of warriors will do the same when the Advanced Hawkeye takes its place on the carrier flight decks."

Mahr said the E-2D is not an incremental step, but rather a forward leap.

"It is designed with inherent flexibility, is network-ready, and will be adaptable to whatever missions, doctrine, and capabilities are needed well into this century. The capability of Navy-delivered airborne command and control will forever change when the digital quarterback, the E-2D, arrives over the battlefield in 2013."

This year's awards mark the largest Naval Air Systems Command showing in Laureate history, with three naval officers as finalists in two categories.

Capt. Mathias Winter, program manger for PMA-201, precision strike weapons, was also a nominee in the Military category; and Capt. Donald Gaddis was a nominee in the IT/Electronics category. Gaddis was nominated for his work during service as program manager for PMA-265, the Super Hornet program

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 13, 2008)
STANDARDIZATION PROGRAM PRESENTS ANNUAL ACHIEVEMENT AWARDS

Three individuals and five teams have won awards from the Defense Standardization Program Office for outstanding contributions to the Department of Defense last fiscal year. Since 1987, DSPO has recognized individuals and organizations that have effected significant improvement in quality, reliability, readiness, cost reduction, and interoperability through standardization.

The DSP mission is to identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters and the acquisition and logistics communities. In addition, the program promotes interoperability and assists in reducing total ownership costs and sustaining readiness.

Individual award recipients for 2007 are James Todd, engineer, Army's program manager for training devices, Program Executive Office, Simulation, Training, and Instrumentation, Orlando, Fla. Todd was instrumental in the development and implementation of standards for the Future Army Systems Integrated Target. Jack Mills, director, Naval Air Systems Command, Fleet Readiness Center, Executive Information Systems Division, implemented a standardized structure and process for software development and life-cycle management of the Naval Air Systems Command's Depot Maintenance System. Also recognized was Thomas Hess, electronics engineer, Defense Supply Center Columbus. Hess made outstanding contributions to revisions of the military performance specification for microcircuits. The revised document addresses the current engineering and technical needs of the space community, military agencies, and DoD equipment manufacturers for robust military and space grade microcircuits.

Team winners include Naval Air Systems Command, DoD Standard Terminal Automation Replacement System Operation Support Facility. By implementing lessons learned and applying the standardized process procedures, the Navy team has been able to provide OSF support to the entire STARS community more quickly and with fewer resources than would be possible if each Service had its own OSF. Members of that team include Kathi Chesser, Adam Osborne Jr., Mark Minik, Kenneth Cole, and Michael Corrigan.

Also named as a team winner was the Air Force Materiel Command, Aeronautical Systems Center, Engineering Directorate, Aerospace Fuels Certification Military Handbook team. This team documented the certification process in Military Handbook 500, aerospace fuels certification. The new process is expected to reduce conversion to no more than three years for all weapon systems, ground support equipment, and refueling infrastructure and significantly reduce conversion costs. Members include James Edwards, Virgil Regoli, Martin Lentz, William Likos, and Edwin Wells.

Other winning teams are all from the Defense Logistics Agency, including the Defense Supply Center Columbus, improved power ratings for standard chip resistors covered by Military Performance Specification MIL-PRF-55342 Team. This joint DLA/Army team overhauled the military performance specification for standard chip resistors to incorporate improved power ratings. As a result of this effort, DoD can upgrade the existing part designs to improve power ratings rather than introduce new parts into the logistics systems. Members include Andrew Ernst, Jeffrey Zern, and Jeffrey Carver.

Also from the Defense Logistics Agency, Defense Supply Center Richmond, was the team for implementation of polyurethane antenna gaskets and tape to mitigate corrosion of DoD aircraft. This joint DLA/Coast Guard team implemented the use of new anticorrosion polyurethane gasket material and tape for antenna and floorboard applications on military aircraft. The use of this new material reduces or eliminates corrosion of antennas and airframes; simplifies removal of components; and allows for extension of maintenance cycle, which gives personnel more time to perform other maintenance tasks. Members are Ned Pruitt, Craig Matzdorf, Dick Kinzie, Steve Carr, and Larry Cornwell.

Another winning group is the Defense Logistics Agency's Defense Energy Support Center team for standardization of fuels, equipment, training, and laboratory operations. This team standardized critical fuels equipment and consolidated fuels training for military services and theater combatant commands. The team published a joint performance specification for collapsible fuel tanks, assisted with revising Society of Automotive Engineers Aerospace Standard 5877, developed policy to reduce the number of different fuel filter elements, and merged lesson plans and consolidated fuels quality training. Members are Larry Woolverton, Shawn Simon, Richard Iwanski, James Eberhardt, and William MacLaren.

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 18, 2008)
64 UNIVERSITIES TO RECEIVE $200 MILLION IN RESEARCH FUNDING

The Department of Defense announced today 34 awards to academic institutions to perform multi-disciplinary basic research. The total amount of the awards is expected to be $19.7 million in fiscal year 2008 and $200 million over five years. Awards are subject to the successful completion of negotiations between the academic institutions and DoD research offices that will provide the awards: the Army Research Office, the Office of Naval Research, and the Air Force Office of Scientific Research.

The awards are the result of the fiscal year 2008 competition that ARO, ONR, and AFOSR conducted under the DoD Multi-disciplinary University Research Initiative program. The MURI program supports multi-disciplinary basic research in areas of DoD relevance that intersect more than one traditional science and engineering discipline. Therefore, a MURI effort typically involves a team of basic researchers with expertise in a variety of disciplines. For a research area suited to a multi-disciplinary approach, bringing together scientists and engineers with different disciplinary backgrounds can accelerate both basic research progress and transition of research results to application.

To assemble a team with the requisite disciplinary strengths, most MURI efforts involve researchers from multiple academic institutions, as well as multiple academic departments. Based on the proposals selected in the fiscal year 2008 competition, a total of 64 academic institutions are expected to participate in the 34 research efforts. Three non-U.S. academic institutions will participate in two of the MURI efforts, but will receive no funding from the MURI program.

The MURI program complements other DoD basic research programs that support traditional, single-investigator university research by supporting multi-disciplinary teams with awards larger and longer in duration than traditional awards. The awards announced today are for a three-year base period with a two-year option contingent upon availability of appropriations and satisfactory research progress. Consequently, MURI awards can provide greater sustained support than single-investigator awards for the education and training of students pursuing advanced degrees in science and engineering fields critical to DoD, as well as for associated infrastructure such as research instrumentation.

The MURI program is highly competitive. ARO, ONR, and AFOSR solicited proposals in 18 topics important to DoD and received a total of 104 proposals. The 34 proposals announced were selected for funding based on merit review by panels of experts in the pertinent science and engineering fields.

The list of projects selected for fiscal year 2008 funding may be found at < www.defenselink.mil/news/Mar2008/d20080318muri.pdf >.

Acquisition & Logistics Excellence

DEPARTMENT OF DEFENSE VALUE ENGINEERING ACHIEVEMENT AWARD WINNERS ANNOUNCED

The winners of the fiscal 2007 Department of Defense Value Engineering Achievement awards have been announced by the Department of Defense. A ceremony will be held in June to recognize the recipients' outstanding achievements through the application of value engineering.

Value engineering is a systematic process of function analysis to identify actions that reduce cost, increase quality, and improve mission capabilities across the entire spectrum of DoD systems, processes, and organizations. The DoD's Value Engineering Program continues to be an incentive for government and industry partners to improve the joint value proposition by promoting innovation and creativity. Innovative value engineering proposals seek best value solutions as part of a successful business relationship. During fiscal year 2007, 1,373 in-house value engineering proposals and contractor-initiated value engineering change proposals were accepted with projected savings/cost avoidance in excess of $4.5 billion.

The Value Engineering Awards Program is an acknowledgment of exemplary achievements and encourages additional projects to improve in-house and contractor productivity. Award winners from each DoD component were eligible for selection in five categories: program/project, individual, team, organization, and contractor. Additional special awards were given to recognize innovative applications or approaches that expanded the traditional scope of value engineering use.

Army Winners

Program/Project: Civil Works District Value Engineering Program, Jacksonville District, U.S. Army Corps of Engineers

Individual: Karen Caudle, U.S. Army Aviation and Missile Life Cycle Management Command

Team: Firefinder Reliability, Maintainability Improvement Program Team, U.S. Army, Communications-Electronics Life Cycle Management Command Organization Headquarters, U.S. Army Corps of Engineers

Contractor: Northstar Aerospace Inc., Ill., and Carleton Technologies, Inc. N.Y.

Special: U.S. Army Tank-Automotive and Armaments Life Cycle Management Command and Jim Knowles, Headquarters, U.S. Army Materiel Command

Navy Winners

Program/Project: Virginia Class Submarine Program, Program Management Office, Ships

Individual: John Martin, Naval Surface Warfare Center, Port Hueneme Division, Calif.

Team: Program Management Office, Warfare, Design to Scope Team, Sea Systems Command

Organization: Naval Surface Warfare Center, Port Hueneme Division, Air Dominance Department

Special: Naval Air Systems Command, Avionics Component Improvement Program and Naval Surface Warfare Command Crane, Airborne Electronic Warfare; Naval Facilities Systems Command Design-Build Acquisition Strategy and Cooperative Engagement Capability System Antenna Environmental Control Unit Redesign

Air Force Winner

Team: Processing and Fabrication Branch, Materials and Manufacturing Directorate at Wright-Patterson Air Force Base, Ohio

Defense Logistics Agency Winners

Program/Project: Ned Pruitt, Reliability of Aviation, Defense Supply Center Richmond, Va.

Individual: Robert Volk Jr., Defense Supply Center Columbus, Ohio

Team: Organic Manufacturing Team, Defense Supply Center Richmond, Va.

Organization: Defense Supply Center Columbus, Ohio

Special: Mitchell McElroy, Defense Supply Center Columbus, Ohio, and Supply Center Richmond, Va., Value Management Office

Missile Defense Agency Winners

Program/Project: Terminal High Altitude Area Defense Project Management Office

Individual: Toni Hamilton, Manufacturing and Product Assurance Directorate, Redstone Arsenal, Ala.

Team: Radar Obsolescence Value Engineering team, Redstone Arsenal, Ala.

Special: Richard Gonzalez and Rod Haverkamp, program executive office, Missile and Space, Huntsville, Ala.

DOD TO AWARD $15.7 MILLION FOR SCIENCE AND ENGINEERING RESEARCH

The Department of Defense announced today plans to award $15.7 million to 24 academic institutions in 18 states to perform research in science and engineering, under the fiscal 2008 Defense Experimental Program to Stimulate Competitive Research (DEPSCoR).

Acquisition & Logistics Excellence

The Army Research Office, the Office of Naval Research, and the Air Force Office of Scientific Research solicited proposals using a defense-wide broad agency announcement. The announcement was published on the Internet and accessed by the DEPSCoR state committees, which solicited and selected projects for each state's proposal.

Academic researchers in Alaska, Arkansas, Delaware, Idaho, Kansas, Kentucky, Louisiana, Maine, Montana, Nebraska, Nevada, New Hampshire, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Dakota, South Carolina, Tennessee, U.S. Virgin Islands, Vermont, West Virginia, and Wyoming were eligible to receive awards under this competition.

All awards are subject to the successful completion of negotiations between DoD and the academic institutions.

The list of projects selected for fiscal year 2008 DEPSCoR funding can be found on the Web at < www.defenselink. mil/news/Mar2008/d20080326depscor.xls > .

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 27, 2008)
$49.3 MILLION AWARDED TO UNIVERSITIES FOR RESEARCH EQUIPMENT

The Department of Defense today announced plans to award $49.3 million to academic institutions to support the purchase of research instrumentation. The 210 awards to 98 academic institutions are being made under the Defense University Research Instrumentation Program (DURIP). The awards are expected to range from about $50,000 to $1,000,000 and average $235,000. All awards are subject to the successful completion of negotiations between DoD research offices and the academic institutions.

DURIP supports the purchase of state-of-the-art equipment that augments current university capabilities or develops new university capabilities to perform cutting-edge defense research. DURIP meets a critical need by enabling university researchers to purchase scientific equipment costing $50,000 or more to conduct DoD-relevant research. Researchers generally have difficulty purchasing

A Six-pack of Tips for Defense AT&L Authors

1 Look at back issues of the magazine. If we printed an article on a particular topic a couple of issues ago, we're unlikely to print another for a while—unless it offers brand new information or a different point of view.

2 We look on articles much more favorably if they follow our author guidelines on format, length, and presentation. You'll find them at < www.dau.mil/pubs/dam/DAT&L%20author%20 guidelines.pdf >.

3 Number the pages in your manuscript and put your name on every page. It makes our life so much easier if we happen to drop a stack of papers and your article's among them.

4 Do avoid acronyms as far as possible, but if you must use them, define them—every single one, however obvious you think it is. We get testy if we have to keep going to acronym finder.com, especially when we discover 10 equally applicable possibilities for one acronym.

5 Fax the *Certification as a Work of the U.S. Government* form when you e-mail your article because we can't review your manuscript until we have the release. Download it at < www.dau.mil/pubs/dam/DAT&L%20certification.pdf >. Please don't make us chase you down for it. And please fill it out completely, even if you've written for us before.

6 We'll acknowledge receipt of your submission within three or four days and e-mail you a publication decision in four to five weeks. No need to remind us. We really will. Scout's honor.

instruments costing that much under research contracts and grants.

These planned awards are the result of a merit competition for DURIP funding conducted by the Army Research Office, Office of Naval Research, and Air Force Office of Scientific Research. Each office requested proposals from university investigators conducting research of importance to DoD. This includes research related to information technology, remote sensing, propulsion, electronics and electro-optics, advanced materials, and ocean science and engineering. In response to the requests, the research offices collectively received more than 800 proposals requesting $224 million in support for research equipment. The list of winning proposals may be obtained at < www. defenselink.mil/news/Mar2008/DURIP2008.pdf > .

MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE (MC4) PUBLIC AFFAIRS (APRIL 10, 2008)
AMERICAN COUNCIL FOR TECHNOLOGY HONORS MC4 PROGRAM WITH 2008 TOP 5 EXCELLENCE.GOV AWARD

FORT DETRICK, Md.—The American Council for Technology and Industry Advisory Council recently honored the U.S. Army's Medical Communications for Combat Casualty Care (MC4) program with the 2008 "Top 5 Excellence.gov" Award. The top five winners exemplified programs that improved organizational performance by using information technology. Over the past year, MC4 expanded the use of its electronic medical recording (EMR) systems to the Air Force, fielded an improved inpatient system, and helped implement a new EMR best business practices initiative on the battlefield. It is the program's third consecutive year being named in the "Top 20" and first "Top 5" award.

"This award illustrates how important it is to invest resources alongside end-users," said Lt. Col. Edward Clayson, commander and product manager. "By continuing to expand our mobile training and support teams on the battlefield, customers get the resources they need to meet the EMR requirement. We're able to help shape change in the way patient care is recorded and maintained. Standardizing these procedures improves the quality of data captured, which is so critical to clinicians and commanders."

In 2007, the program expanded to the Pacific Command when it opened a new training and support hub in South Korea. Later that year, MC4 launched a new medical logistics system that allows for the automated restocking and maintaining of critical medical supplies on the front lines and in combat support hospitals.

"MC4's capturing of 4.8 million electronic health records demonstrates how the program is adding value to the deployed medical community," said Gary Winkler, program executive officer, Enterprise Information Systems. "Canvassing the deployed users with training and support has been the key to MC4's success. They're delivering on their promise to the customer by committing these resources every step of the way."

To date, MC4 has trained more than 24,000 medical professionals and has fielded 23, 242 systems to the battlefield in support of Operations Iraqi and Enduring Freedom, as well as contingency operations worldwide. MC4 integrates, fields, and supports a medical information management system for Army tactical medical forces, enabling a comprehensive, lifelong electronic medical record for all Service members, and enhancing medical situational awareness for operational commanders. The Army's Program Executive Office, Enterprise Information Systems oversees the MC4 Product Management Office.

For more information on MC4, visit < www.mc4.army. mil >. For more information on the American Council for Technology and Industry Advisory Council, visit < www. actgov.org >.

AT&L Workforce—Key Leadership Changes

FROM THE OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION AND TECHNOLOGY)

Keith D. Ernst, former deputy and acting director of the Defense Contract Management Agency (DCMA) has been appointed to the full position of director, DCMA. Ernst will lead a worldwide organization of over 10,000 civilians, active duty military, and reservists covering more than 20,000 contractors, 300,000 contracts, and $175 billion of unliquidated work.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 25, 2008)
GENERAL/FLAG OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nomination: **Navy Rear Adm. Michael C. Vitale** has been nominated for appointment to the grade of vice admiral and assignment as commander, Navy Installations Command, Washington, D.C. Vitale is currently serving as commander, Navy Region Southeast, Jacksonville, Fla.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 27, 2008)
SENIOR EXECUTIVE SERVICE APPOINTMENT

Secretary of Defense Robert M. Gates announced the following Department of Defense Senior Executive Service Appointment: **L. Wayne Arny III**, deputy under secretary of defense for installations and environment, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 28, 2008)
GENERAL OFFICER ASSIGNMENT

Secretary of Defense Robert M. Gates announced today that the president has nominated **Army Lt. Gen. Ann E. Dunwoody** for reappointment to the rank of lieutenant general and assignment as deputy commanding general/chief of staff, U.S. Army Materiel Command, Fort Belvoir, Va. Dunwoody is currently serving as the deputy chief of staff, G-4, U.S. Army, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 28, 2008)
GENERAL OFFICER ANNOUNCEMENT

Secretary of Defense Robert M. Gates announced today that the president has made the following nomination: **Air Force Maj. Gen. John T. Sheridan** has been nominated for appointment to the rank of lieutenant general with assignment as commander, Space and Missile Systems Center, Air Force Space Command, Los Angeles Air Force Base, Calif. Sheridan is currently serving as deputy director, National Reconnaissance Office, and program executive officer and system program director for space radar, Chantilly, Va.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 28, 2008)
FLAG OFFICER ANNOUNCEMENT

Secretary of Defense Robert M. Gates announced today that the president has made the following nomination: **Navy Rear Adm. (lower half) Raymond E. Berube** has been nominated for appointment to the rank of rear admiral upper half. Berube is currently serving as commander, Fleet and Industrial Supply Centers, San Diego, Calif.

DEPARTMENT OF DEFENSE NEWS RELEASE (FEB. 28, 2008)
GENERAL OFFICER ASSIGNMENT

The Army chief of staff announces the assignment of the following general officer: **Maj. Gen. John P. Basilica**, Army National Guard, director of Logistics (J-4), National Guard Bureau, Washington, D.C. to, deputy commanding general, reserve component, Fifth U.S. Army, Fort Sam Houston, Texas.

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 3, 2008)
GENERAL OFFICER ANNOUNCEMENTS

The chief of staff, Air Force announces the assignment of the following general officers:

Brig. Gen. Ellen M. Pawlikowski, vice commander, Space and Missile Systems Center, Air Force Space Command, Los Angeles Air Force Base, Calif., to deputy director, national reconnaissance office and program executive officer, and systems program director, space radar, Office of the Under Secretary of the Air Force, Chantilly, Va.

Brig. Gen. Susan K. Mashiko, commander, Military Satellite Communications Systems Wing, Space and Missile Systems Center, Air Force Space Command, Los Angeles Air Force Base, Calif., to vice commander, Space and Missile Systems Center, Air Force Space Command, Los Angeles Air Force Base, Calif.

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 5, 2008)
FLAG OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

AT&L Workforce—Key Leadership Changes

Navy Reserve Capt. Mark J. Belton has been nominated for appointment to the grade of rear admiral (lower half). Belton is currently serving as chief of staff, Navy Expeditionary Logistics Support Group, Norfolk, Va.

Navy Reserve Capt. Nicholas T. Kalathas has been nominated for appointment to the grade of rear admiral (lower half). Kalathas is currently serving as commanding officer, Navy Reserve Defense Contract Management Agency, Headquarters/International, Philadelphia, Pa.

GENERAL OFFICER ANNOUNCEMENT
Secretary of Defense Robert M. Gates announced today that the president has nominated **Army Maj. Gen. Mitchell H. Stevenson** for appointment to the rank of lieutenant general and assignment as deputy chief of staff, G-4, U.S. Army, Washington, D.C. Stevenson is currently serving as the commanding general, U.S. Army Combined Support Command and Fort Lee, Fort Lee, Va.

GENERAL OFFICER ANNOUNCEMENTS
Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

Air Force Brig. Gen. David J. Eichhorn has been nominated to the grade of major general while serving as the commander, Air Force Flight Test Center, Air Force Materiel Command, Edwards Air Force Base, Calif.

Air Force Brig. Gen. Duane A. Jones has been nominated to the grade of major general while serving as the director, Global Combat Support, deputy chief of staff, logistics, installations and mission support, Headquarters U.S. Air Force, Pentagon, Washington, D.C.

Air Force Brig. Gen. Paul G. Schafer has been nominated to the grade of major general while serving as the director, special programs, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, Pentagon, Washington, D.C.

GENERAL OFFICER ANNOUNCEMENT
Secretary of Defense Robert M. Gates announced today that the president has nominated **Army Maj Gen. Patrick J. O'Reilly** for appointment to the rank of lieutenant general and assignment as the director, Missile Defense Agency, Washington, D.C. O'Reilly is currently serving as the deputy director, Missile Defense Agency, Washington, D.C.

GENERAL OFFICER ANNOUNCEMENTS
The Army chief of staff announces the assignment of the following general officers:

Brig. Gen. Allison T. Aycock, director, Korea Region Office, Installation Management Command, Korea, to commanding general, Special Operations Command, Korea.

Brig. Gen. Lynn A. Collyar, commander, defense distribution center, Defense Logistics Agency, New Cumberland, Pa., to commanding general, U.S. Army Ordnance Center, commandant, U.S. Army Ordnance Schools, Aberdeen Proving Ground, Md.

Brig. Gen. Thomas W. Spoehr, commandant, U.S. Army Chemical, Biological, Radiological and Nuclear School/deputy commanding general, Material and Technology U.S. Army Maneuver Support Center, Fort Leonard Wood, Mo. to director of integration, Office of the Deputy Chief of Staff, G-8, U.S. Army, Washington, D.C.

GENERAL OFFICER ASSIGNMENTS
The Army chief of staff announces the assignment of the following general officers:

Brig. Gen. James E. Chambers, who has been selected to be promoted to major general, commanding general/commandant, U.S. Army Transportation Center and School, Fort Eustis, Va., to commanding general, U.S. Army Combined Arms Support Command and Fort Lee, Fort Lee, Va.

Brig. Gen. James L. Hodge, deputy commanding general, U.S. Army Field Support Command, with duty as commanding general, Army Materiel Command Forward-Southwest Asia/G-4, U.S. Army Central, Camp Arifjan, Kuwait, to commanding general, Military Surface Deployment and Distribution Command, Scott Air Force Base, Ill.

Brig. Gen. Phillip E. McGhee, director for resource management, Installation Management Command, Arlington, Va., to director of resource management, Third Army/U.S. Army Central, Camp Arifjan, Kuwait.

AT&L Workforce—Key Leadership Changes

Brig. Gen. John W. Peabody, commanding general, U.S. Army Engineer Division, Pacific Ocean, Fort Shafter, Hawaii, to commanding general, U.S. Army Engineer Division, Great Lakes and Ohio River, Cincinnati, Ohio.

Brig. Gen. Kevin R. Wendel, commanding general, 20th Support Command (chemical, biological, radiological, nuclear and high yield explosive), Aberdeen Proving Ground, Md., to director of operational maneuver, Third U.S. Army/U.S. Army Central, Camp Arifjan, Kuwait.

Col. Brian R. Layer, who has been selected to be promoted to brigadier general, deputy commander/director of operations, Military Surface Deployment and Distribution Command, Fort Eustis, Va., to commander/ commandant, U.S. Army Transportation Center and School, Fort Eustis, Va.

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 27, 2008)
FLAG OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

Navy Capt. David F. Baucom has been nominated for appointment to the rank of rear admiral (lower half). Baucom is currently serving as commanding officer, Fleet Industrial Supply Center, Norfolk, Va.

Navy Capt. Vincent L. Griffith has been nominated for appointment to the rank of rear admiral (lower half). Griffith is currently serving as force supply officer, Naval Air Force, U.S. Pacific Fleet, San Diego, Calif.

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 31, 2008)
GENERAL OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

Air Force Col. Christopher C. Bogdan has been nominated for appointment to the grade of brigadier general. Bogdan is currently serving as the senior military assistant, deputy under secretary of defense (acquisition and technology), Office of the Secretary of Defense, Pentagon, Washington, D.C.

Air Force Col. John B. Cooper has been nominated for appointment to the grade of brigadier general. Cooper is currently serving as the director, logistics, Headquarters Air Force Special Operations Command, Hurlburt Field, Fla.

Air Force Col. Terrence A. Feehan has been nominated for appointment to the grade of brigadier general. Feehan is currently serving as the commander, Nuclear Weapons Center, Air Force Materiel Command, Kirtland Air Force Base, N.M.

Air Force Col. Scott M. Hanson has been nominated for appointment to the grade of brigadier general. Hanson is currently serving as the deputy director, operations and plans, Headquarters U.S. Transportation Command, Scott Air Force Base, Ill.

Air Force Col. Jeffrey G. Lofgren has been nominated for appointment to the grade of brigadier general. Lofgren is currently serving as the director, Analytical Project Office, Joint Advanced Warfighting Program, Institute for Defense Analyses, U.S. Joint Forces Command, Alexandria, Va.

Air Force Col. Craig S. Olson has been nominated for appointment to the grade of brigadier general. Olson is currently serving as the vice commander, Aeronautical Systems Center, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio.

Air Force Col. John F. Thompson has been nominated for appointment to the grade of brigadier general. Thompson is currently serving as the chief of staff, Headquarters Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 1, 2008)
FLAG OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

Navy Capt. Jerry K. Burroughs has been nominated for appointment to the rank of rear admiral (lower half). Burroughs is currently serving as major program manager for special operating forces and undersea mobility, Program Executive Office for Submarines, Washington, D.C.

Navy Capt. Donald E. Gaddis has been nominated for appointment to the rank of rear admiral (lower half). Gaddis is currently serving as the program manager for presidential helicopters, Program Executive Office for Aviation, Patuxent River, Md.

Navy Capt. Paul A. Grosklags has been nominated for appointment to the rank of rear admiral (lower half). Grosklags is currently serving as major program manager

for H-60 programs, Program Executive Office for Aviation, Patuxent River, Md.

Navy Capt. David C. Johnson has been nominated for appointment to the rank of rear admiral (lower half). Johnson is currently serving as the major program manager for Virginia (SSN 774) class submarine programs, Program Executive Office for Submarines, Washington, D.C.

Navy Capt. Thomas J. Moore has been nominated for appointment to the rank of rear admiral (lower half). Moore is currently serving as the major program manager for aircraft carriers, Program Executive Office for Carriers, Washington, D.C.

Navy Capt. James J. Shannon has been nominated for appointment to the rank of rear admiral (lower half). Shannon is currently serving as executive assistant to the assistant secretary of the Navy (research, development and acquisition), Office of the Secretary of the Navy, Washington, D.C.

Navy Capt. Maude E. Young has been nominated for appointment to the rank of rear admiral (lower half). Young is currently serving as the major program manager for National Reconnaissance Office and National Remote Sensing System, Space and Naval Warfare Systems Command Space Field Activity, Chantilly, Va.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 8, 2008)
SENIOR EXECUTIVE SERVICE APPOINTMENTS

Secretary of Defense Robert M. Gates announced the following Department of Defense Senior Executive Service appointments:

Brian E. George, deputy director for cost, price and finance, Office of the Under Secretary of Defense (Acquisition, Technology and Logistics), Washington, D.C.

Timothy J. Harp, director, acquisition, reassigned to deputy assistant secretary of defense for command, control, communications, intelligence, surveillance and reconnaissance and information technology acquisition, Office of the Assistant Secretary of Defense for Networks and Information Integration, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 10, 2008)
FLAG OFFICER ASSIGNMENTS

Chief of Naval Operations Adm. Gary Roughead announced the following flag officer assignments:

Rear Adm. (lower half) Raymond E. Berube is being assigned as commander, Naval Inventory Control Point Philadelphia/Mechanicsburg, Philadelphia, Pa. Berube is currently serving as commander, Fleet and Industrial Supply Centers, San Diego, Calif.

Rear Adm. (lower half) William A. Brown is being assigned as commander, Fleet and Industrial Supply Centers, San Diego, Calif. Brown is currently serving as director, Logistics/Fleet Supply Office, N41, U.S. Fleet Forces Command, Norfolk, Va.

Rear Adm. (lower half) Steven R. Eastburg is being assigned as vice commander, Naval Air Systems Command, Patuxent River, Md. Eastburg is currently serving as commander, Naval Air Warfare Center Aircraft Division/assistant commander for research and engineering, Naval Air Systems Command, Patuxent River, Md.

Rear Adm. (lower half) Earl L. Gay is being assigned as deputy chairman, Armed Forces Inaugural Committee, Washington, D.C. Gay is currently serving as commandant, Naval District Washington, Washington, D.C.

AIR FORCE MATERIEL COMMAND PUBLIC AFFAIRS (APRIL 21, 2008)
GENERAL HOFFMAN TO LEAD AIR FORCE MATERIEL COMMAND

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Department of Defense officials announced April 18 that **Lt. Gen. Donald J. Hoffman**, currently the military deputy in the Office of the Assistant Secretary of the Air Force for Acquisition at the Pentagon, will become the sixth commander of Air Force Materiel Command.

President Bush has nominated Hoffman for promotion to the grade of general with assignment as commander of AFMC, headquartered at Wright-Patterson AFB. Hoffman will succeed Gen. Bruce Carlson, the current AFMC commander who has served in the position since August 2005.

No dates have been announced for when the change of command will occur, or when Carlson will retire to end a 37-year Air Force career.

AT&L Workforce—Key Leadership Changes

One of nine Air Force major commands, AFMC's mission is to conduct research, development, test and evaluation, and provide acquisition management services and logistics support necessary to keep Air Force weapon systems ready for war.

In his current position, Hoffman is responsible for research and development, test, production, and modernization of Air Force programs worth more than $23 billion annually.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 18, 2008)
GENERAL OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced today that the president has made the following nominations:

Air Force Lt. Gen. William M. Fraser III has been nominated for appointment to the grade of general with assignment as commander, United States Transportation Command, Scott Air Force Base, Ill. Fraser is currently serving as assistant to the Chairman of the Joint Chiefs of Staff, Washington, D.C.

Air Force Lt. Gen. Donald J. Hoffman has been nominated for appointment to the grade of general with assignment as commander, Air Force Materiel Command, Wright-Patterson AFB, Ohio. Hoffman is currently serving as military deputy, Office of the Assistant Secretary of the Air Force for Acquisition, Pentagon, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 21, 2008)
FLAG OFFICER ASSIGNMENT

Chief of Naval Operations Adm. Gary Roughead announced the following flag officer assignment: **Rear Adm. (lower half) Joseph A. Horn** is being assigned as deputy director, Missile Defense Agency, Washington, D.C. Horn is currently serving as deputy director, surface warfare for combat systems/weapons, N86F, Office of the Chief of Naval Operations, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 22, 2008)
SENIOR EXECUTIVE SERVICE APPOINTMENT

Secretary of Defense Robert M. Gates announced the following Department of Defense Senior Executive Service appointment: **Bradley B. Bunn**, director, Civilian Personnel Management Service, reassigned to program executive officer for the National Security Personnel System, Office of the Deputy Secretary of Defense, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 30, 2008)
FLAG OFFICER ASSIGNMENTS

Chief of Naval Operations Adm. Gary Roughead announced the following flag officer assignments:

Capt. Jerry K. Burroughs, who has been selected to the rank of rear admiral (lower half), is being assigned as chief engineer directorate, Code 05, Space and Naval Warfare Systems Command, San Diego, Calif. Burroughs is currently serving as program manager for special operating forces and undersea mobility, Program Executive Office for Submarines, Washington, D.C.

Capt. Paul A. Grosklags, who has been selected to rear admiral (lower half), is being assigned as commander, fleet readiness centers, Patuxent River, Md. Grosklags is currently deputy program executive officer for air anti submarine warfare assault and special missions programs, Patuxent River, Md.

U.S. TRANSPORTATION COMMAND NEWS SERVICE (APRIL 29, 2008)
NEXT UNITED STATES TRANSPORTATION COMMAND LEADER NOMINATED

Bob Fehringer

SCOTT AIR FORCE BASE, Ill.—Gen. Norton A. Schwartz, commander, U.S. Transportation Command, informed members of his command of his retirement and the nomination of his successor, **Air Force Lt. Gen. William M. Fraser III**, during a commander's call, April 23, in the base theater. Fraser currently serves as assistant to the Chairman Joint Chiefs of Staff and is slated to become the USTRANSCOM commander Nov. 14. Fraser's nomination is subject to confirmation by the Senate Armed Services Committee.

Fraser entered the Air Force in 1974 as a distinguished graduate of the Texas A&M University ROTC program. His operational assignments include duty as a T-37 instructor pilot and evaluator; B-52 aircraft commander, instructor, and evaluator; and deputy commander of a B-1 operations group.

He was the first commander of the 509th Operations Group, then served as the vice wing commander for the 509th Bomb Wing at Whiteman Air Force Base, Mo. He commanded the 28th Bomb Wing at Ellsworth Air Force Base, S.D., and 2nd Bomb Wing at Barksdale Air Force Base, La.

AT&L Workforce—Key Leadership Changes

Fraser's staff duties include tours on the Air Staff, Joint Staff, and Joint Strategic Target Planning Staff at Offutt Air Force Base, Neb. He also has served as chief of the Nuclear Requirements Cell at Supreme Headquarters Allied Powers Europe and chief of staff for U.S. Strategic Command, Offutt Air Force Base, Neb.

Fehringer writes for U.S. Transportation Command Public Affairs.

GENERAL SERVICES ADMINISTRATION NEWS RELEASE (APRIL 30, 2008)
DOAN STEPS DOWN AS GSA ADMINISTRATOR

WASHINGTON—U.S. General Services Administration Administrator Lurita Doan announced today that she submitted her resignation as the head of the federal government's premier contracting and building agency. Doan will conclude her tenure as the first woman to head the GSA.

"It has been a great privilege to serve our nation and a great president," said Doan. "The past twenty-two months have been filled with accomplishments: together, we have regained our clean audit opinion, restored fiscal discipline, re-tooled our ability to respond to emergencies, rekindled entrepreneurial energies, reduced bureaucratic barriers to small companies to get a GSA Schedule, ignited a building boom at our nation's ports of entries, boldly led the nation in an aggressive telework initiative, and improved employee morale so that we were selected as one of the best places to work in the federal government. These accomplishments are made even more enjoyable by the fact that there were lots of people who told us they could

never be done. I have great faith in the abilities of GSA's dedicated team."

Doan came to GSA as an accomplished entrepreneur having successfully established a minority-owned small business. Doan capably managed GSA's $17 billion budget and 12,000 employees and leaves the agency with employee morale at an all-time high point, according to the most recent OPM survey.

Media contact: Lindsey Willis, 202-501-1231, e-mail lindsey.willis@gsa.gov.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 1, 2008)
FLAG OFFICER ANNOUNCEMENTS

The Chief of Naval Operations, Adm. Gary Roughead announced the assignments of the following flag officers:

Captain Jerry K. Burroughs, U.S. Navy, who has been selected to the rank of rear admiral (lower half), is being assigned as Chief Engineer Directorate, Space and Naval Warfare Systems Command, San Diego, Calif. Burroughs is currently serving as program manager for Special Operating Forces and Undersea Mobility, Program Executive Office for Submarines, Washington, D.C.

Captain Paul A. Grosklags, U.S. Navy, who has been selected to rear admiral (lower half), is being assigned as commander, Fleet Readiness Centers, Patuxent River, Md. Grosklags is currently deputy program executive officer for Air Anti Submarine Warfare Assault and Special Missions Programs, Patuxent River, Md.

We're Looking For A Few Good Authors

Got opinions to air? Interested in passing on lessons learned from your project or program? Willing to share your expertise with the acquisition community? Want to help change the way DoD does business?

You're just the person we're looking for.

Write an article (no longer than 2,500 words) and *Defense AT&L* will consider it for publication. Our readers are interested in real-life, hands-on experiences that will help them expand their knowledge and do their jobs better.

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Now we can't promise you a new job, but many of our authors:
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- Gain recognition as subject matter experts
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For more information and advice on how to submit your manuscript, check the writer's guidelines at < www.dau.mil/pubs/damtoc.asp > or contact the managing editor at datl(at)dau.mil.

If you're interested in having longer, scholarly articles considered for publication in the *Defense Acquisition Review Journal*, or if you're a subject matter expert and would be willing to referee articles, contact the managing editor at defensearj(at)dau.mil. Be sure to check the guidelines for authors at < www.dau.mil/pubs/arq/arqtoc.asp > .

Acquisition & Logistics Excellence
An Internet Listing Tailored to the Professional Acquisition Workforce
Surfing the Net

Acquisition Central
http://acquisition.gov
Shared systems and tools to support the federal acquisition community and business partners.

Acquisition Community Connection (ACC)
http://acc.dau.mil
Policies, procedures, tools, references, publications, Web links, and lessons learned for risk management, contracting, system engineering, TOC.

Aging Systems Sustainment and Enabling Technologies (ASSET)
http://asset.okstate.edu/asset/index.htm
Government-academic-industry partnership. ASSET program-developed technologies and processes expand the DoD supply base, reduce time and cost of parts procurement, enhance military readiness.

Air Force (Acquisition)
www.safaq.hq.af.mil
Policy; career development and training opportunities; reducing TOC; library; links.

Air Force Institute of Technology
www.afit.edu
Graduate degree programs and certificates in engineering and management; Civilian Institution; Center for Systems Engineering; Centers of Excellence; distance learning.

Air Force Materiel Command (AFMC) Contracting Laboratory's FAR Site
http://farsite.hill.af.mil
FAR search tool; *Commerce Business Daily* announcements (CBDNet); *Federal Register*; electronic forms library.

Army Acquisition Support Center
http://asc.army.mil
News; policy; *Army AL&T* Magazine; programs; career information; events; training opportunities.

Army Training Requirements and Resources System
https://www.atrrs.army.mil
Army system of record for managing training requirements.

Assistant Secretary of the Army (Acquisition, Logistics & Technology)
https://webportal.saalt.army.mil
ACAT Listing; ASA(ALT) Bulletin; digital documents library; links to other Army acquisition sites.

Association for the Advancement of Cost Engineering International (AACE)
www.aacei.org
Planning and management of cost and schedules; online technical library; book-store; technical development; distance learning.

Association of Old Crows (AOC)
www.crows.org
News; conventions, courses; *Journal of Electronic Defense*.

Association of Procurement Technical Assistance Centers (APTAC)
www.aptac-us.org
PTACs nationwide assist businesses with government contracting issues.

AT&L Knowledge Sharing System
http://akss.dau.mil
Automated acquisition reference tool covering mandatory and discretionary practices.

Central Contractor Registry
http://www.ccr.gov/
Registration for businesses wishing to do business with the federal government under a FAR-based contract.

Committee for Purchase from People Who are Blind or Severely Disabled
www.abilityone.gov
Information and guidance to federal customers on the requirements of the Javits-Wagner-O'Day (JWOD) Act.

Defense Acquisition University (DAU) and Defense Systems Management College (DSMO)
www.dau.mil
DAU Course Catalog; *Defense AT&L* magazine and *Defense Acquisition Review Journal*; DAU/DSMC course schedules; educational resources.

DAU Alumni Association
www.dauaa.org
Acquisition tools and resources; links; career opportunities; member forums.

DAU Distance Learning Courses
www.dau.mil/registrar/enroll.asp
DAU online courses.

Defense Advanced Research Projects Agency (DARPA)
www.darpa.mil
News releases; current solicitations; *Doing Business with DARPA*.

Defense Business Transformation Agency (BTA)
www.acq.osd.mil/scst/index.htm
Policy; newsletters; Central Contractor Registration (CCR); assistance centers; DoD EC partners.

Defense Information Systems Agency (DISA)
www.disa.mil
Defense Information System Network; Defense Message System; Global Command and Control System.

Defense Modeling and Simulation Office (DMSO)
www.dmso.mil
DoD modeling and simulation master plan; document library; events; services.

Defense Technical Information Center (DTIC)
www.dtic.mil/
DTIC's scientific and technical information network (STINET) is one of DoD's largest available repositories of scientific, research, and engineering information. Hosts over 100 DoD Web sites.

Deputy Under Secretary of Defense for Acquisition, Technology and Logistics (DUSD(AT&L))
www.acq.osd.mil/at
Acquisition and technology organization, goals, initiatives, and upcoming events.

Director, Defense Procurement and Acquisition Policy (DPAP)
www.acq.osd.mil/dpap
Procurement and acquisition policy news and events; reference library; acquisition education and training policy, guidance.

DoD Acquisition Best Practices Clearinghouse
https://bpch.dau.mil
The authoritative source for acquisition best practices in DoD and industry. Connects communities of practice, centers of excellence, academic and industry sources, and practitioners.

DoD Defense Standardization Program
www.dsp.dla.mil
DoD standardization; points of contact; FAQs; military specifications and standards reform; newsletters; training; nongovernment standards; links.

DoD Enterprise Software Initiative (ESI)
www.esi.mil
Joint project to implement true software enterprise management process within DoD.

DoD Inspector General Publications
www.dodig.osd.mil/pubs/
Audit and evaluation reports; IG testimony; planned and ongoing audit projects of interest to the AT&L community.

DoD Office of Technology Transition
www.acq.osd.mil/ott
Information about and links to OTT's programs.

DoD Systems Engineering
www.acq.osd.mil/se
Policies, guides and information on SE and related topics, including developmental T&E and acquisition program support.

Earned Value Management
www.acq.osd.mil/pm
Implementation of EVM; latest policy changes; standards; international developments.

Electronic Industries Alliance (EIA)
www.eia.org
Government relations department; links to issues councils; market research assistance.

Federal Acquisition Institute (FAI)
www.fai.gov
Virtual campus for learning opportunities; information access and performance support.

Federal Acquisition Jumpstation
http://prod.nais.nasa.gov/pub/fedproc/home.htm
Procurement and acquisition servers by contracting activity; CBDNet; reference library.

Federal Aviation Administration (FAA)
http://fast.faa.gov
Online policy and guidance for all aspects of the acquisition process.

Federal Business Opportunities
www.fedbizopps.gov
Single government point-of-entry for federal government procurement opportunities over $25,000.

Federal R&D Project Summaries
www.osti.gov/fedrnd/about
Portal to information on federal research projects; search databases at different agencies.

Federal Research in Progress (FEDRIP)
http://grc.ntis.gov/fedrip.htm
Information on federally funded projects in the physical sciences, engineering, life sciences.

Fedworld Information
www.fedworld.gov
Central access point for searching, locating, ordering, and acquiring government and business information.

Government Accountability Office (GAO)
http://.gao.gov
GAO reports; policy and guidance; FAQs.

General Services Administration (GSA)
www.gsa.gov
Online shopping for commercial items to support government interests.

Acquisition & Logistics Excellence

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

Government-Industry Data Exchange Program (GIDEP)
www.gidep.org
Federally funded co-op of government-industry participants, providing electronic forum to exchange technical information essential to research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment.

GOV.Research_Center
http://grc.ntis.gov
U.S. Dept. of Commerce, National Technical Information Service, and National Information Services Corporation joint venture, single-point access to government information.

Integrated Dual-Use Commercial Companies (IDCC)
www.idcc.org
Information for technology-rich commercial companies on doing business with the federal government.

International Society of Logistics
www.sole.org
Online desk references that link to logistics problem-solving advice; Certified Professional Logistician certification.

International Test & Evaluation Association (ITEA)
www.itea.org
Professional association to further development and application of T&E policy and techniques to assess effectiveness, reliability, and safety of new and existing systems and products.

Joint Capability Technology Demonstrations (JCTD)
www.acq.osd.mil/jctd
JCTD's accomplishments, articles, speeches, guidelines, and POCs.

U.S. Joint Forces Command
www.jfcom.mil
"Transformation laboratory" that develops and tests future concepts for warfighting.

Joint Fires Integration and Interoperability Team
https://jfiit.eglin.af.mil
USJFCOM lead agency to investigate, assess, and improve integration, interoperability, and operational effectiveness of Joint Fires and Combat Identification across the Joint warfighting spectrum. (Accessible from .gov and .mil domains only.)

Joint Interoperability Test Command (JITC)
http://jitc.fhu.disa.mil
Policies and procedures for interoperability certification; lessons learned; support.

Joint Spectrum Center (JSC)
www.jsc.mil
Operational spectrum management support to the Joint Staff and COCOMs; conducts R&D into spectrum-efficient technologies.

Library of Congress
www.loc.gov
Research services; Copyright Office; FAQs.

MANPRINT (Manpower and Personnel Integration)
www.manprint.army.mil
Points of contact for program managers; relevant regulations; policy letters from the Army Acquisition Executive; briefings on the MANPRINT program.

National Aeronautics and Space Administration (NASA)'s Commercial Technology Office (CTO)
http://technology.grc.nasa.gov
Promotes competitiveness of U.S. industry through commercial use of NASA technologies and expertise.

National Contract Management Association (NCMA)
www.ncmahq.org
Educational products catalog; publications; career center.

National Defense Industrial Association (NDIA)
www.ndia.org
Association news; events; government policy; *National Defense* magazine.

National Geospatial-Intelligence Agency
www.nima.mil
Imagery; maps and geodata; Freedom of Information Act resources; publications.

National Institute of Standards and Technology (NIST)
www.nist.gov
Information about NIST technology, measurements, and standards programs, products, and services.

National Technical Information Service (NTIS)
www.ntis.gov

Online service for purchasing technical reports, computer products, videotapes, audiocassettes.

Naval Sea Systems Command
www.navsea.navy.mil
TOC; documentation and policy; reduction plan; implementation timeline; TOC reporting templates; FAQs.

Navy Acquisition and Business Management
www.abm.rda.hq.navy.mil
Policy documents; training opportunities; guides on risk management, acquisition environmental issues, past performance; news and assistance for the Standardized Procurement System (SPS) community; notices of upcoming events.

Navy Acquisition, Research and Development Information Center
www.onr.navy.mil/sci_tech
News and announcements; publications and regulations; technical reports; doing business with the Navy.

Navy Best Manufacturing Practices Center of Excellence
www.bmpcoe.org
National resource to identify and share best manufacturing and business practices in use throughout industry, government, academia.

Naval Air Systems Command (NAVAIR)
www.navair.navy.mil
Provides advanced warfare technology through the efforts of a seamless, integrated, worldwide network of aviation technology experts.

Office of Force Transformation
www.oft.osd.mil
News on transformation policies, programs, and projects throughout DoD and the Services.

Open Systems Joint Task Force
www.acq.osd.mil/osjtf
Open systems education and training opportunities; studies and assessments; projects, initiatives and plans; library.

Parts Standardization and Management Committee (PSMC)
www.dscc.dla.mil/programs/psmc
Collaborative effort between government and industry for parts management and standardization through commonality of parts and processes.

Performance-based Logistics Toolkit
https://acc.dau.mil/pbltoolkit
Web-based 12-step process model for development, implementation, and management of PBL strategies.

Project Management Institute
www.pmi.org
Program management publications; information resources; professional practices; career certification.

Small Business Administration (SBA)
www.sba.gov
Communications network for small businesses.

DoD Office of Small Business Programs
www.acq.osd.mil/osbp
Program and process information; current solicitations; Help Desk information.

Software Program Managers Network
www.spmn.com
Supports project managers, software practitioners, and government contractors. Contains publications on highly effective software development best practices.

Space and Naval Warfare Systems Command (SPAWAR)
https://e-commerce.spawar.navy.mil
SPAWAR business opportunities; acquisition news; solicitations; small business information.

System of Systems Engineering Center of Excellence (SoSECE)
www.sosece.org
Advances the development, evolution, practice, and application of the system of systems engineering discipline across individual and enterprise-wide systems.

Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L))
www.acq.osd.mil
USD(AT&L) documents; streaming videos; links.

U.S. Coast Guard
www.uscg.mil
News and current events; services; points of contact; FAQs.

U.S. Department of Transportation Maritime Administration
www.marad.dot.gov
Information and guidance on the requirements for shipping cargo on U.S. flag vessels.

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Defense AT&L Writer's Guidelines in Brief

Purpose
Defense AT&L is a bi-monthly magazine published by DAU Press, Defense Acquisition University, for senior military personnel, civilians, defense contractors, and defense industry professionals in program management and the acquisition, technology, and logistics workforce. The magazine provides information on policies, trends, events, and current thinking regarding program management and the acquisition, technology, and logistics workforce.

Submission Procedures
Submit articles by e-mail to datl(at)dau.mil or on disk to: DAU Press, ATTN: Carol Scheina, 9820 Belvoir Rd., Suite 3, Fort Belvoir VA 22060-5565. Submissions must include the author's name, mailing address, office phone number, e-mail address, and fax number.

Receipt of your submission will be acknowledged in five working days. You will be notified of our publication decision in two to three weeks.

Deadlines

Issue	Author Deadline
July-August	1 October
March-April	1 December
May-June	1 February
July-August	1 April
September-October	1 June
November-December	1 August

If the magazine fills before the author deadline, submissions are considered for the following issue.

Audience
Defense AT&L readers are mainly acquisition professionals serving in career positions covered by the Defense Acquisition Workforce Improvement Act (DAWIA) or industry equivalent.

Style
Defense AT&L prints feature stories focusing on real people and events. The magazine also seeks articles that reflect your experiences and observations rather than pages of researched information.

The magazine does not print academic papers; fact sheets; technical papers; white papers; or articles with footnotes, endnotes, or references. Manuscripts meeting any of those criteria are more suited to DAU's journal, *Acquisition Review Journal (ARJ)*.

Defense AT&L does not reprint from other publications. Please do not submit manuscripts that have appeared in print elsewhere. *Defense AT&L* does not publish endorsements of products for sale.

Length
Articles should be 1,500 – 2,500 words.

Format
Submissions should be sent via e-mail as a Microsoft® Word attachment.

Graphics
Do not embed photographs or charts in the manuscript. Digital files of photos or graphics should be sent as e-mail attachments or mailed on zip disks or CDs (see address above). Each figure or chart must be saved as a separate file in the original software format in which it was created.

TIF or JPEG files must have a resolution of 300 pixels per inch; enhanced resolutions are not acceptable; images downloaded from the Web are not of adequate quality for reproduction. Detailed tables and charts are not accepted for publication because they will be illegible when reduced to fit at most one-third of a magazine page.

Non-Department of Defense photos and graphics are printed only with written permission from the source. It is the author's responsibility to obtain and submit permission with the article.

Author Information
Contact and biographical information will be included with each article selected for publication in *Defense AT&L*. Please include the following information with your submission: name, position title, department, institution, address, phone number, and e-mail address. Also, please supply a short biographical statement, not to exceed 25 words, in a separate file. We do not print author bio photographs.

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